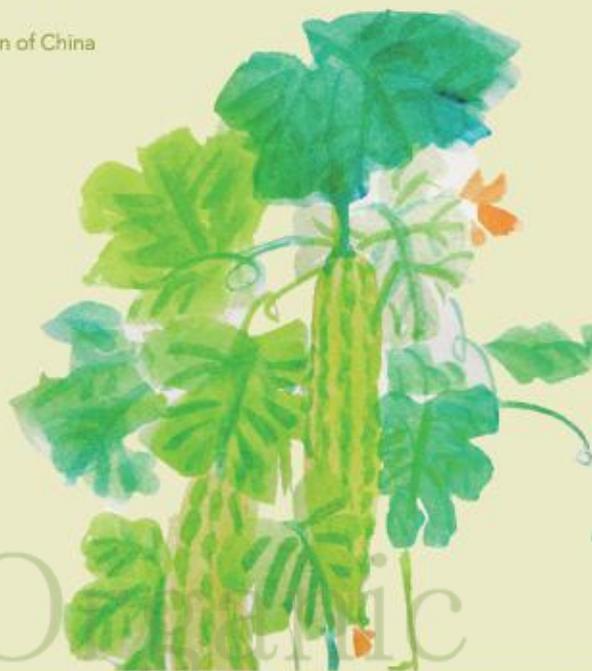




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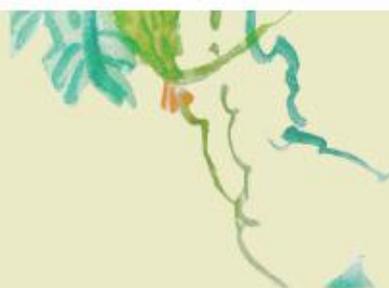


Organic
and
Beyond

The Development of Organic Industry
and Organic Product Certification
in China 2016 (Excerpt)



Excerpted, Compiled and Translated by OABC Organic Agricultural Technology Center
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The Development of Organic Industry and Organic Product Certification in China 2016 (Excerpt)

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OABC Organic Agricultural Technology Center**



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Foreword

With the promulgation and implementation of China's organic product standards and relevant laws and regulations, as well as the strict supervision of organic agriculture production, certification and trade throughout the whole process, China's organic industry has entered a standardized and legalized rapid development track. The organic industry has become an important way to advancing the structural reform of the agricultural supply side and ecological civilization construction. At the same time, it has become an important industry for targeted poverty alleviation in some areas. China has carried out organic product certification for more than 20 years. In 2016, about 11,000 enterprises were certified, with certified area hitting 1.95 million hectares and 1.74 billion organic labels issued; the sales of organic products stood at RMB 36 billion, and a total of 84 organic product certification demonstration areas have been established in China. In addition, we also actively promote the international mutual recognition of organic product certification. In 2016, a mutual recognition agreement of organic product certification was signed with New Zealand. In-depth cooperation was also carried out with the European Union, the UK, Denmark, etc.

Organic product certification is a means to ensure that organic products are truly credible and serve the healthy development of organic industry. In order to ensure that the origin of organic products is real, China's *Administrative Measures on Organic Product Certification* provides that no "Organic" shall be used on the package and label of non-certified products. At the same time, in consideration of the difficulty of whole-process tracing of organic products, lack of standardization of certification process and fake organic products, we have taken three measures: first, introducing "the most stringent in history" new rules of organic certification, establishing a strict supervision and inspection system and implementing whole-process supervision on organic product certification; second, developing "One Code for One Product" organic product tracing system to facilitate the consumers' identification; third, increasing the efforts in crackdown on the illegal certification to enhance the consumer confidence in organic products. Seen from the result of the supervision and spot checks of organic product in recent few years, the overall pass rate was over 97%.

The Development of Organic Industry and Organic Product Certification in China (2016) is jointly compiled by Certification and Accreditation Administration of the People's Republic of China and China Agricultural University. This book introduces the new development situation of China's organic industry, the status of production of China's organic industry, the status quo of the production and trade of organic rice, vegetables, tea and dairy products, organic product certification regulation and demonstration area construction, and so on. It has a detailed summary of and analysis on the achievements and shortcomings of the development of China's organic industry in 2015 and makes a systematic summary of the overall development of China's organic industry.

The compilation and publication of this book receives the funding from "Research and Demonstration of Key Technologies of Characteristic Organic Products Certification with Regional Advantages", a project under the National Science and Technology Support Program. We would like to express our sincere thanks for it.

Due to language barriers, there is quite a lack of the information on the development of organic products in China in the world's organic certification sector. Beijing Organic and

Beyond Corporation has been undertaking the translation, printing and dissemination of the status quo of China's organic agriculture development for years in succession to help the world-wide practitioners to obtain the information on China's organic industry in a timely manner. Here, we would like to express our heartfelt gratitude to all the members of Organic and Beyond and all those participating in the edition, translation, arrangement, printing and distribution of this manual!

Due to the relatively small number of institutions specialized in organic industry research, limited access to data, coupled with limited time, it is difficult to have an accurate analysis and summary of China's organic industry in this book. There may be omissions and shortcomings in this book, and we sincerely welcome opinions from experts and colleagues.



Deputy Director
Certification and Accreditation Administration of the People's Republic of China
(CNCA)
Beijing, October 20, 2017

Types and distribution of certificates on different organic products from China in 2015

	Chinese standards*	Foreign standards
Certified enterprises	10,949	995
Organic planting area (thousand hectares)	927	700
Organic planting yield (thousand tons)	6,127	4,980
Wild collection (thousand hectares)	597	--
Wild collection product yield (thousand tons)	237	--
Total output of livestock and poultry products (thousand tons)	770	505
Total output of aquatic products (thousand tons)	303	--
Processed product yield (thousand tons)	2,593	2,370
Filing number of organic labels (billion)	1.504	--
Verification of organic products (thousand tons)	548	--
Estimated organic product sales (billion yuan)	35.78	
Export trade volume of organic products (thousand tons)	--	650.9
Export trade amount of organic products (billion USD)	--	0.899

* Data in brackets are overseas certification based on Chinese standards for organic products

New Development Trend of Domestic Organic Industry

Development scale of domestic organic industry

Certification authorities and the number of certificates

Up to the end of 2015, 24 domestic certification authorities have been approved by Certification and Accreditation Administration of the People's Republic of China (CNCA) to carry out certification of organic products within the scope specified by the approval documents in accordance with the national standards of *Organic Products* (GB/T 19630) or overseas organic product standards. Domestically in China, there are 6 international certification authorities (3 of them have been approved by CNCA to set up a certification body in China and the other 3 organs conduct business with domestic certification authorities through subcontracting cooperation) carrying out certification business in accordance with overseas organic product standards.

Up to Dec. 31, 2015, a total of 10949 manufacturers have obtained 12810 organic product certificates issued based on the national standards of *Organic Products* (GB/T 19630), which distributed in 23 provinces, 5 autonomous regions, 4 municipalities directly under the central government and Hong Kong Special Administrative Region.. In 2015, 10 certification authorities carried out certification business in accordance with national standards of *Organic Products* (GB/T 19630) in 27 countries abroad, issuing 196 certificates and certifying 103 companies. 995 enterprises were certified and engaged in production in China in accordance with overseas standards.

The scale of domestic organic production

Up to Dec. 31, 2015, the domestic production area of organic plants was 1.524 million hectares in accordance with Chinese standards, including 927 thousand hectares of organic planting area and 597 thousand hectares of wild collection area. The total output of organic plant products was 6.364 million tons, including 6.127 million tons of organic plant products and 237 thousand tons of wild collection. The total annual output of organic livestock and poultry and its products produced in accordance with the national standards was 770 thousand tons, which was mainly from sheep, cattle, pigs, chickens, ducks, geese and other common animal varieties. The year-round output of certified aquatic products reached 303 thousand tons, and kelp, *Porphyra tenera* and other aquatic plant products occupied more than half, 62% to be more specific, of the total amount. In the whole year of 2015, a total of 2.593 million tons of organic products were processed and certified, with grain grinding products, processed liquid milk or cream, starch and starch products taking the top 3 positions.

In 2015, a total of 700 thousand hectares of plant products with an output of 4.98 million tons were certified in accordance with overseas standards. Beans and other oil crops boasted the largest planting area, which was 268 thousand hectares. 505 thousand tons of livestock and poultry products were certified based on overseas organic standards in 2015. And the output of cow's milk was 481 thousand tons, accounting for 95% of the total output. In the same year, China applied to certify 2.37 million tons of processed products in accordance with overseas organic standards.

Market size of domestic organic industry

Statistics show that the output value of various types of organic products totaled RMB 129.9 billion in 2015. Accounting for 66.8% of the total output value of organic products, processed products realized an output value of RMB 86.7 billion and the output value of processed liquid milk and cream reached up to RMB 23.4 billion (liquid milk mainly). Cereal output value was RMB 9.5 billion, taking up 7.3%, followed by RMB 8.6 billion for fruits and nuts, accounting for 6.6%. The sum of these three categories of products accounted for 81.0% of the total output value.

From 2012 onwards, the “one product one code” management system started to govern organic products sold domestically in China. All organic products on shelves must be affixed on their smallest sales package the organic label issued by the certification authority and which has been registered in the Information System of Food and Agricultural Products Certification in China. Hence, the number of registered organic labels also reflects the sales of organic products. In 2015, 1.504 billion organic labels were registered, including 1.009 billion for sterile milk, accounting for 67% of the total amount. Verified sales volume of organic products with labels issued reached 548 thousand tons, and processed products accounted for 71.7% (393 thousand tons), followed by 139 thousand tons of plant products, 5000 tons of aquatic products and 3000 tons of livestock and poultry products (including eggs, meat and by-products, excluding meat products). In 2015, organic products achieved the sales revenues of RMB 35.78 billion, including RMB 31.62 billion for processed organic products (accounting for 88.4%), followed by RMB 3.393 billion for plant products (accounting for 5.6%). The sales revenues of aquatic products and livestock and poultry products reached RMB510 million and RMB260 million respectively.

In 2015, China’s total export volume of organic products amounted to \$ 899 million, increasing by 53.41% over 2014, and the total trade volume reached 650,900 tons, an increase of 128.63% over 2014.

Organic industry regulation and public opinion

The organic industry implements the “Five in One” regulatory system, which includes specifically legal norm, administrative supervision, accreditation constraint, industrial self-discipline and social supervision. And the regulatory targets include organic products, certified enterprises and certification authorities.

Special supervision

In order to comprehensively implement the spirit of *Decision of the CPC Central Committee on Major Issues Pertaining to Comprehensively Promoting the Rule of Law* and to roundly and profoundly promote legal certification under new situations, CNCA has carried out a special supervision and inspection on the quality of domestic organic products in accordance with CNCA’s 2015 Work Plan and the *Notice of the CNCA on Printing and Distributing the Work Plan for the Certification and Approval of the Supervision and Inspection of All Business Sectors in 2015* (GRB [2015] No. 25).

The special supervision and inspection on certified enterprises: From July to November 2015, a special supervision and inspection was arranged on 89 certified enterprises of organic products in Fujian Province, Hebei Province, Henan Province, Shanxi Province and Inner Mongolia Autonomous Region. The inspection covered plant production, livestock and poultry breeding, aquaculture, and organic product processing, etc., involving 13 certification authorities. Also, from July to August, 2015, 4 inspection teams were dispatched to Zepu County and Yumin County in Xinjiang Uygur Autonomous Region and Liangzihu District and Xuanen County in Hubei Province to inspect 22 organic products manufacturers in 4 demonstration areas of organic product certification. These manufacturers held certificates issued by 7 certification authorities.

Special supervision and spot check of organic products: In 2015, 2 special supervision and spot checks were arranged respectively in the first and second half of the year according to the general work deployment of CNCA. A total of 1333 batches of products were collected in the circulation fields, covering more than 20 types of products. 102 batches of products were found of authenticity issues (including uncertified products labeled as “organic”, fake certification and certification label used beyond expiration and beyond scope), with a total pass rate of 92.3%. Over 700 tests were

run on 363 batches of products; 353 batches passed the tests while the rest 10 batches failed, with a total pass rate of 97.2%. Overall, cracking down on products circulated in the market with untrue certification, especially products using expired labels is still the focus of regulatory work, but organic products with true and valid certification are generally of stable quality and safety.

Daily supervision

In 2015, local certification supervision departments independently carried out a supervision and inspection on 1260 enterprises. 1159 batches of products were checked and 108 issues of all types were found. The types of products checked mainly included wine, sanitary napkins, milk powder, cosmetics and cleaning products, supplementary food for infants, linseed oil, olive oil, tea leaves, matrimony vine, spices and so on.

Public opinion on organic industry

In 2015, 144 pieces of public opinion concerning the organic industry were received. Reported for more than 673 times, these opinions mainly covered 5 aspects: fake organic products and violation of laws and regulations, lack of supervision on organic industry, supervision on the organic industry and publicity, analysis on organic products and the organic industry, etc. In all these opinions, most of them were about fake organic products and violation of laws and regulations.

National policies boost the development of organic industry

Organic agriculture is traditional agriculture combined with innovative thinking and science and technology. It helps to protect our shared living environment and can also promote the fair and harmonious coexistence of all creatures on the planet, human beings included. Emphasizing on the ecological nature of agricultural development, organic agriculture takes health, ecology, equity and care as the principles. It respects laws of the ecological economy and stresses on the optimization and balance of ecology, economy and social benefits. Its development principles and concepts well match with the ecological civilization construction, supply-side reform and other fundamental policies that China actively advocates. And the word “organic” is also mentioned in several guidance documents in 2015. The relevant implementation polices also function as an active boost and push for the further development of the organic industry.

Relevant state-level ministries and commissions vigorously promote the construction of organic agriculture demonstration areas/counties

To deepen the “Five in One” certification and accreditation regulatory system, to improve the supervision linkage mechanism for organic product certification, to promote the local economic development by taking advantage of certification and accreditation means and to advance the healthy and stable development of China’s organic industry, CNCA has initiated the “construction of national demonstration areas of organic product certification” since 2011. Under the substantial support from the quality and technical supervision bureau and the entry-exit inspection and quarantine bureau and local governments, 54 counties, cities and areas have been awarded the title of “National Demonstration Area (County/City) of Organic Product Certification” as of the end of 2015. 9 of them, after submitting voluntary applications and being recommended by the local quality inspection organ, have won the title of “The First Batch of National Demonstration Areas of Organic Food Certification” after an announcement was made on the CNCA website. The final list was announced in *GRZ [2015] No. 64* document of CNCA.

The Ministry of Environmental Protection promotes the construction of national production bases of organic food. In 2003, the Ministry of Environmental Protection (formerly the State Environmental

Protection Administration) printed and distributed the *Assessment Management Methods of National Organic Food Production Bases (Trial) (the Regulations)* and started to assess national bases at the same year. Up to 2012, 4 batches of bases assessment have been conducted. To adapt to the new development trend of the organic food industry, to screen out production bases which can achieve sustainable and healthy development and realize the win-win of economic development and environmental protection as the national bases, and to better play the pivotal role of the *Regulations* on promoting ecological civilization construction and rural environmental protection, the Ministry of Environmental Protection had the Regulations amended and officially issued the *Assessment Management Methods of National Organic Food Production Bases* (HF [2013] No. 135 document) in 2013. After the new Regulations were issued, the Ministry of Environmental Protection subsequently arranged the 5th and 6th batch of national bases assessment in 2014 and 2015. Up to now, 176 bases of 5 batches in 23 provinces, cities and autonomous regions nationwide have passed the Ministry of Environmental Protection's examination and reexamination. Organic products planted and bred in these bases include cereal, vegetables, tea leaves, fruits, livestock and poultry and other categories of organic products.

The Ministry of Agriculture expressed its requirements in *Opinions on Further Strengthening the Quality and Safety Management of Agricultural Products* (NSF (2004) No. 15), *Opinions on the Development of Pollution-free Agricultural Products, Green Foods and Organic Agricultural Products* (NSF (2005) No. 11) and the Notice of Printing and Distributing the *Method on Construction and Management of Organic Agriculture Demonstration Bases (Trial)* (NL (2010) No. 8): Speeding up the certification process, expanding the certification coverage and increasing the market share of organic agricultural products under the development direction of "government guidance and market operation". As of the end of 2013, 15 organic agriculture demonstration bases have been selected and appraised, including 13 planting bases and 2 breeding bases. They cover an area of 645,000 hectares, boast a yield of 109 thousand tons, and involve 84 enterprises and 20158 farmer households which scattered in 9 provinces (autonomous regions). They mostly plant tea leaves, fruits and vegetables, and also breed yak, Tibetan sheep, etc. In 2015, the Ministry of Agriculture supported the construction of 4 national organic agriculture demonstration bases in Hubei, Guangdong, Guangxi, Sichuan and other provinces. At present, there are a total of 21 national organic agriculture demonstration bases countrywide, covering a total area of over 667,000 hectares. Several distinctive demonstration models of tea leaves, fruits, vegetables, rice, husbandry products, etc. have been formed.

Organic industry and poverty alleviation

At the Central Poverty Alleviation and Development Work Conference held in November 2015, President Xi Jinping specifically stressed that "efforts must be made to ensure that all poverty-stricken areas and people will enter into a well-off society in an all-round way by 2020". On Dec. 7, 2015, the CPC Central Committee authorized Xinhua News Agency to publish the *Decision of the CPC Central Committee and the State Council on Winning the Fight against Poverty*. The Decision pointed out "we should stick to the protection of ecology to achieve a green development. We should firmly establish the concept that green hills and clear waters are the gold and silver mines and should place ecological protection as a top priority". The Decision also proposed that "characteristic industries should be developed to get rid of poverty" and "the 'One Village One Product' movement should be carried out in poor villages".

Currently, China has a total of 592 nationally-designated poor counties, which are mostly located in remote and ecologically-weak mountainous areas that are backward in education. Viewing from a national perspective, the focus of poverty alleviation work lies in the central and western areas where the poverty population and poverty levels were concentrated, especially in the southwest and

northwest regions. Currently, China's poverty alleviation policy has shifted from relief-based to development-oriented alleviation. Under the policy of development-oriented poverty reduction, necessary national support will be relied on to encourage the construction of basic facilities such as roads, water diversion and electricity in poverty-stricken areas, to change the conditions of production, and to support the development of planting and breeding industries. At the same time, poverty relief and development shall be combined with water and soil conservation, environmental protection, ecological construction and other measures to implement the sustainable development strategy. In terms of industry selection, China will mainly relieve poverty by developing planting industry and breeding industry.

Poor areas have practical advantages and favorable conditions in the development of organic industry: first, the development environment and production conditions of the industry have been further improved; second, the organic industry development is facing a more favorable policy environment; third, the development of organic industry has its comparative advantage; fourth, adjustment of the national industrial structure and the production mode change have provided a favorable opportunity for the leapfrog development of poor areas' industries. Poor areas could promote the development of organic industry and biotechnology industry by taking advantages of its biological resources. The organic industry can interact with tourism resources, thus driving the development of modern service industry and other related industries.

The costs and benefits of the organic industry are closely related to the environment and conditions of the farmers' farming place. Benefits of the organic industry include: higher crop yields, higher product prices (as a result of improved product quality); stronger recovery capability of the farming system thanks to increased biodiversity and decreased incidence of plant diseases and insect pests; improved groundwater quality; and a more diversified farming system. There also have other benefits, such as improving the health of farmers, raising the level of agricultural science and technology, providing more employment opportunities for rural labors, increasing social capital and playing a demonstration role.

Organic industry and ecological civilization construction

The 18th National Congress of the Chinese Communist Party proposed that an ecological civilization concept of respecting nature, conforming to nature and protecting nature must be established and the ecological civilization construction must be included into the "Five in One" overall construction pattern. *Opinions of the CPC Central Committee and the State Council on Accelerating the Ecological Civilization Construction* issued in April 2015 pointed out that "we should vigorously develop the agricultural circular economy, control agricultural pollution and improve the quality and safety level of agricultural products" and stressed that "the development of organic agriculture and ecological agriculture shall be taken as the concrete measures of realizing the green industrial development". In September of the same year, the *Overall Plan for the Reform of the Ecological Civilization System* jointly printed and issued by the CPC Central Committee and the State Council proposed that "a unified green product system should be established. The currently separate environmental protection products, energy-saving products, water-saving products, recyclable products, low-carbon products, renewable and organic products should be integrated as green products and a unified system of green product standards, certification, marking and other aspects should be established. Efforts should be made to improve financial and tax support policies for the R&D, production, transportation and distribution, purchase and use of green products and to improve government procurement policies." The *Plan* further clarified the status and role of organic industry in "perfecting the environmental governance and ecological protection market system".

Organic agriculture is in line with the laws of ecological economics. It stresses on the ecological

nature of industrial development, as well as the overall optimization and balance of environment, economy and social benefits, reflects the mindset of ecological civilization and green development, recyclable and low-carbon development, and is the concrete practice that echoes the strategic goal of ecological civilization. The organic industry, as a brand new mode of production, prop ups the construction of ecological civilization through its specific concept connotation and production mode. It has improved the ecological environment, promoted the development of ecological economy, facilitated the formation of a good ecological culture and social atmosphere, and contributed to the establishment and implementation of ecological system. It features a complete set of clear rules and regulations for production, processing, certification management and sales. While the construction of ecological civilization requires the guarantee of a certain ecological system, the system of organic industry is therefore of some reference value for the system construction of ecological civilization.

Promoting and improving the ecological civilization construction and evaluation system is a pressing task for now and some time to come. In order to scientifically and systematically evaluate a region's ecological civilization development level or degree, we need to build a typical and operable evaluation index system. Organic industry maturity evaluation involves conducting a systematic analysis of the status quo, management level, existing problems and improvement measures of the organic industry in a specific region, and preparing a report on the organic industry maturity of the specific region, so as to provide technical support for the region's organic industry development plan, implementation measures and performance evaluation. The maturity level of organic industry can directly mirror how mature the region's organic industry has been developed and can provide support for the construction of ecological civilization in China.

Organic industry and supply-side reform

The Central Rural Work Conference held in December 2015 put forward for the first time "agricultural supply-side structural reform", directing the way for the agricultural and rural work in 2016 and 'the 13th Five-Year Plan' period. The Conference pointed out that "we should focus on strengthening the agricultural supply-side structural reform, improving the quality and efficiency of agricultural supply system, so that supply of agricultural products will be sufficient, and the variety and quality of products can meet consumers' needs, thus truly realizing an effective supply of agricultural products featured by reasonable structure and strong guarantee".

The effective supply must be enhanced to strengthen the agricultural supply-side structural reform. This requires us to take into account the real needs of consumers. Many examples have shown that, China's extensive agricultural operations and pursuit of quality in the long past have resulted in low product quality. But the reality is that consumers now have increasing demand for high-quality products. So, we must realize that the agricultural supply-side reform aims to make the supply of agricultural products sufficient in quantity while also fit consumers' needs for quality and variety, thus truly realizing an effective supply of agricultural products featured by reasonable structure and strong guarantee. And to realize the effective supply of agricultural products, we must address the safety issues and environmental protection issues that consumers care about. And, organic products, whose production process and requirements happen to highly match with issues concerned by consumers, are bound to become a driving force and engine of the agricultural supply-side reform.

Organic industry and the action plan of zero growth in fertilizer and pesticide usage

In order to implement the spirits of the Central Rural Work Conference, the No. 1 Central Document and the National Agricultural Work Conference, to vigorously reduce the use but increase the efficacy of fertilizer and reduce the use but control the harm of pesticides by staying close to the main line of "stabilizing grain yield, increasing farmers' income and adjusting agricultural structure,

advancing quality and efficiency and transforming the economic development mode”, and to actively explore the environmentally friendly path of modern agricultural development that’s featured by efficient output, safe products, resource conservation, the Ministry of Agriculture has formulated the Action Plan of Zero Growth in Fertilizer Usage by 2020 and the Action Plan of Zero Growth in Pesticide Usage by 2020 and will steadily promote the realization of the two plans by strengthening organization and leadership, integrating central and local efforts, improving supportive policies, strengthening technical support, enhancing publicity and training, consolidating legal protection and other measures.

According to the organic product standards, it is forbidden to use chemical synthetic fertilizer and pesticide in the production of organic products, which is in line with the two “Zero Growth Action Plans”, therefore developing organic agriculture will help to realize goals of the two plans. The series of safeguard measures mentioned above will further form a social, technological and policy atmosphere conducive to the development of organic agriculture and will promote the development of organic agriculture.

Subsidy policies for organic industry

The Industrial Policy and Regulation Department, Ministry of Agriculture published the “Policy Measure 2015 for China's Deepening Rural Reform, Developing Modern Agriculture and Increasing Farmer's Income” in the 2nd section of the Farmers' Daily on April 30, 2015, involving a total of 50 policy measures, and the subsidy policies related to the development of organic industry are shown in Table 1.

Table 1: Policies related to the development of organic industry in 2015

No.	Policy Description
15. Supportive Policies for zero growth in fertilizer and pesticide usage	A special financial fund of RMB 9.96 million was allocated in 2015 to continue the demonstration and subsidized pilot projects of low-toxicity biological pesticides in 42 major counties that produce vegetables, fruits, tea leaves and other horticultural crops in 17 provinces (cities), Beijing included. The fund was used to subsidize farmers for the increased cost from using low-toxicity biological pesticides, and to encourage and promote the use of low- toxicity biological pesticides.
16. Subsidy policies for cultivated land protection and quality improvement	In 2015, the central government appropriated RMB 800 million financial fund to encourage and support major grain growers, family farms and other business entities and farmers of the new agriculture to return crop stalks to the field, strengthen green manuring, apply more organic fertilizers, improve soil, raise soil fertility, promote the conversion and use of organic fertilizer resources, improve the rural ecological environment and better the quality of arable land. In the same year, black land protection pilot work was carried out in the four northeastern provinces. Pilot counties were selected, technological models were integrated, investment was increased and mechanism was innovated to substantially improve the conditions of black soil, comprehensively improve the quality of black soil and promote the stable and sustainable development of grain and agriculture.
	In 2015 and a period of time to come, we will speed up the development of a quality traceability system, management practices

19. Supportive policies for construction of agricultural product traceability system

and technical standards, promote the construction of a national traceability information platform and further improve the quality and safety traceability system of agricultural products. Meanwhile, more input will be made to the construction of the quality and safety traceability system of agricultural products. Efforts should be made to constantly perfect the equipment and conditions needed for the operation of the basic level traceability system, to consolidate the building of basic units' information collection, supervision and spot checks, inspection and testing, law enforcement supervision, publicity and training and other abilities. Pilot projects should be conducted in certified entities and products with "three products (pollution-free products, green products and organic agricultural products) and one geographical indication" labels in accordance with the principle of pilot work before popularization. On the basis of summing up pilot experiences, the aim is to achieve traceability management of the quality and safety of all of China's major agricultural products.

20. Supportive Policies for Construction of Agricultural Product Quality Safety County

In 2014, China started the activity of "Construction of Agricultural Product Quality Safety County". According to the principle of fulfilling local responsibility, strengthening supervision of whole process, enhancing ability improvement and promoting social governance, this activity focused on the counties which are the main producing area of the "vegetable basket" products. From 2015, the central finance arranged RMB 80 million of financial aid, which was mainly used for system establishment, mode summarization & exploration and personnel training, to support the activity of Construction of Agricultural Product Quality Safety County.

22. Supportive Policies for Livestock Standardized Scale Breeding

In 2014, the central finance invested a total of RMB 3.8 billion to support the development of livestock & poultry standardized scale breeding, and RMB 2.5 billion was allocated to support the construction of live pig standardized scale breeding areas (farms), RMB 1 billion was allocated to support the construction of dairy cattle standardized scale breeding areas (farms), and RMB 300 million was allocated to support the construction of beef cattle and mutton sheep standardized scale breeding farms (areas) in Inner Mongolia, Sichuan, Tibet, Gansu, Qinghai, Ningxia, Xinjiang and Xinjiang Production and Construction Corps. The supportive funds were mainly used for water and electricity transformation, fecal disposal, epidemic prevention, milking, quality test and other supporting facilities construction in the breeding farms (areas). In 2015, the government continued to support the livestock & poultry standardized scale breeding, but because of the adjustment and optimization of the policies and funds as well as other reasons, the supporting of the construction of live pig standardized scale breeding farms (areas) was suspended for one year.

First, carrying out the comprehensive prevention and treatment of the soil heavy metal pollution in agricultural producing areas. Second, carrying out the pollution control of agricultural non-point source.

32. Introduction of Pilot Policy for Agricultural Resources' Rehabilitation

Third, actively exploring the construction of agricultural ecological compensation mechanism. Further strengthening the pilot work of pollution prevention & control and ecological compensation of the agricultural non-point sources in the key river basins, providing subsidies to farmers who adopt environment-friendly technologies such as reduction of chemical fertilizers and pesticide use and pesticide residue degradation, and apply high-efficiency, low-toxicity & low-residue pesticides and biological pesticides, and encouraging farmers to apply the mode of clean production, to control the agricultural non-point source pollution.

Starting of organic catering standards preparation

With the rapid development of organic products market, the organic idea has gradually integrated into the catering industry. Many restaurants have launched organic dishes, and some restaurants even directly advertise themselves as organic restaurants. However, due to the lack of standards, consumers are hard to distinguish them, and it also brings certain difficulties to regulations of the restaurants. On June 11, 2015, the kick-off meeting for the program of "Organic Catering Service Technical Requirements" was started in Beijing successfully, which indicates that the preparation of China's organic catering standards was started officially. The organic catering requires purchasing certified organic raw materials as far as possible and adopting cooking methods that could maintain the nutritional contents of food to the fullest extent, and emphasizes the traceability of procurement, processing and sales activities to maintain the integrity of the organic catering. Absorbing the concepts of foreign organic catering standards and referring to the related requirements of the domestic organic products and catering industry, the standards have been prepared combined with the actual condition of the domestic organic catering industry. According to the proportion of organic dishes restaurants provide, the service of organic restaurants is divided into three levels as gold, silver and bronze. The establishment of the organic catering standards and certification system has filled up the gaps in this aspect and plays an important role in the healthy and orderly development of China's organic catering industry.

The current situation of organic industry organizations

With the booming development of China's organic industry, a number of industry organizations have emerged across the country to serve the practitioners of the organic industry and promote the information sharing and exchange. At present, searching by the key words "organic", "association" and "alliance" in the system of National Administration for Code Allocation to Organizations (<https://www.nacao.org.cn/>), a total of 304 industry organizations related to the organic industry can be found. The remaining 160 organic industry organizations whose organization code certificates can be found in the system are located in 29 provinces, directly-controlled municipalities and autonomous regions, mainly including Shandong Province, Jiangxi Province and Sichuan Province.

Most of these organic industry organizations are non-profit social organizations voluntarily constituted by local governmental departments such as agriculture and environment protection, enterprises, supply and marketing cooperatives, R&D institutions, universities and colleges, rural professional associations and individuals, with the majority of its members as local organizations and individuals engaged in organic agricultural product production and distribution. Most of these organic industry organizations provide services such as organic product promotion, technology consulting & guidance, theoretical research or establishment of organic productive resources supply & marketing platform, to pay attention to and promote the development of organic industry.

Although the total number of the organic industry organizations is considerable, in the actual operation, only a small number of associations or alliances are relatively active in the industry while the vast majority of them are of low activeness.



Status of China's Organic Industry Production in 2015

Data sources, scopes and analysis principles

Data sources

Organic products are produced and processed conformed to the principles of organic agriculture and the methods and standards of organic production, and then certified and issued with certificates by legitimate certification bodies for organic products. Organic products discussed in this chapter specifically refer to the products for human and animal consumption which are produced, processed, sold and certified in line with the national standards of organic products in China and get the certificate for organic products.

The Information System of Food and Agricultural Products Certification in China (hereinafter referred to as the Information System, website: <http://food.cnca.cn>) developed by CNCA has been runny officially since September 2006. This Information System has attracted much attention from the relevant departments, organizations and consumers as a platform for information collection and publication of food and agricultural products certification established by the national administrative departments of certification and accreditation since its running. The relevant legal authorities, domestic and foreign buyers and the certified companies of food and agricultural products all take this system as an important source of information.

Management and supervision on organic production enterprises in China are mainly conducted through organic certification system, that is, the approved certification bodies certify the organic products provided by the production enterprises, and then report the related information to the Information System. Data used in this paper are mainly sourced from this Information System. As direct trade data is not accessible, estimation is made based on indirect data. Reference is also made to relevant data annually published by IFOAM and FiBL in *The World of Organic Agriculture: Statistics & Emerging Trends*.

Analysis scope and indexes

Regions and scope

The production regions for organic products covered by this chapter include 23 provinces, 5 autonomous regions, 4 municipalities and 2 special administrative regions of China, as well as other production areas in 21 countries, such as Italy, Spain and Austria and others, which are certified according to Chinese standards for organic products. According to the Organic Product Catalogue published by CNCA in 2012, this article will divide organic products into four categories: plant products (including wild plant collection), livestock and poultry products, aquatic products and processed products, then classify and analyze the organic production activities according to this classification.

Till December 31, 2015, a total of 24 certification bodies had been approved by CNCA to carry out the certification of organic products according to the national standards of *Organic Products* (GB/T19630), and in accordance with the *Measures for the Administration of Organic Product Certification, Implementation Rules for Certification of Organic Products*, and all of them had received the recognition from China National Accreditation Service for Conformity Assessment (CNAS). Unless otherwise specified in this chapter, except the data in Section 2.8 that are from certification based on foreign standards, the data in other sections are all sourced from the Information System. In 2015, international certification authorities carrying out certification in China in accordance with foreign standards include French ECOCERT, German BCS, German CERES, Japanese JONA, Brazilian IBD, Italian BAC and Australian ACO. The data in Section 2.8 in this chapter are sourced from the foreign authorities mentioned above.

Analysis Indexes

In the process of data analysis, the organic production scale is usually expressed by indexes such as production area, yield and amount. For the production of organic plants, which includes organic crop production and wild collection production, their scale of production is usually shown by the production area and yield. In the process of analysis, three concepts are introduced: the total area of organic planting, the production areas in different provinces, and the production areas for different crops. To be specific, the production area in this chapter refers to the planting area/sown area of each crop, including the area of arable crops on the same farmland, particularly for the production of vegetables that can be grown multiple times a year. The scale of organic crop production and wild collection is mainly expressed by this index. Unless otherwise indicated, the planting area of organic products used in this chapter includes both the organic area and the area in conversion period. If the organic products are produced in conversion period, they will be specifically explained in the article. For certified organic products, including agricultural products and processed products, the production scale is mainly expressed by yield; while for organic livestock and poultry products, the production scale is expressed by yield and amount.

In some regions of China, there are still conventional agriculture and community-supported agriculture which is gradually gaining popularity. Their production is generally in line with the principles of organic agriculture, but their products are not certified yet, so they are not included in the organic products discussed in this chapter. In terms of the analysis of distribution of organic production areas, the relevant information of certificates is analyzed based on locations of applicant, however in practice, the area where the applicant is located is not necessarily the location of the organic production base and the processing plant, so there will be some deviations between the analysis of distribution areas of organic product certificates and the subsequent analysis of organic production areas.

Overview of the certification of organic products in 2015

Organic product certificates and regional distribution

Till to December 31, 2015, 10949 manufacturers had obtained 12810 organic product certificates conformed to Chinese standards in total, distributed in 23 provinces, 5 autonomous regions, 4 directly-controlled municipalities and Hong Kong Special Administrative Region in China, with Macao as the only area with no production of organic products. The distribution of organic production areas is affected by a variety of factors including climate, terrain conditions and the level of economic development.

Similar to the previous years, most of the organic product certificates were issued in the northeastern area and the eastern coastal area, and Sichuan and Guizhou Provinces in southwest of China. The northeastern region had more enterprises and production bases due to its unique regional advantages in resources; while the eastern region had a higher level of industrialization due to the active market, especially with more processing enterprises.

Overall, the certified enterprises of organic products in China are generally distributed with more in East and less in West. In recent years, although Sichuan, Guizhou, Inner Mongolia and Xinjiang are located in China's western region with less-developed economy, their organic industries are developing very fast, especially in Guizhou and Sichuan. The organic agriculture in these two provinces has been developing rapidly due to their unique ecological advantages. Provinces with more than 500 certificates include Heilongjiang, Sichuan, Guizhou, Zhejiang, Shandong, Jilin, Inner Mongolia and Jiangsu.

Distribution of certificates for different types of organic products

According to the Organic Product Catalogue, organic products include 4 categories as plant products (including cultivation and wild collection), livestock and poultry products, aquatic products and processed products. The respective proportions of number of the issued certificates for various types of organic products and the total number (12810) were shown in Table 2. Similar to 2014, most of the organic products produced in China in 2015 were still primary products, and plant products took up a large proportion in certificate number, followed by processed products, but those of the livestock and poultry and aquatic products were below normal level. Among of them, crop planting had 8038 organic certificates, with the proportion in the total up to 62.7%, wild collection had 274 organic certificates, accounting for 2.1%; livestock and poultry and aquatic production had less certificates relatively, had 643 and 367 respectively, while processed products had 3488 certificates, accounting for 27.2% of the total number.

Table 2: Types and distribution of the issued certificates for various organic products in China 2015

Certificate type	Planting	Livestock and poultry	Aquatic products	Processed products	Wild collection
Number	8038	643	367	3488	274
Proportion in 2015 (%)	62.7%	5.0%	2.9%	27.2%	2.1%
Proportion in 2014 (%)	64.9%	4.7%	4.9%	25.9%	4.7%

The certification overview of different certification bodies

Table 3: Certificate numbers issued by 24 organic certification bodies in China in 2015

Certification body	Number	Certification body	Number
Beijing Continental Hengtong Certification Co., Ltd	2025	Beijing Co-ops Integrity Certification Center	406
Organic Food Development and Certification Center of China	1541	Beijing Ecocert Certification Center Co., Ltd.	400
China Organic Food Certification Center	1472	Guangdong Zhongjian Certification Corp., Ltd.	399
WIT Assessment	1124	Fangyuan Organic Food Certification Center	240
Beijing WuyueHuaxia Management and Technique Center	1002	Beijing Orient Jiahe Certification Co., Ltd.	192
ZhongAn Authentication Center	742	Zhengjiang GainShine Assessment	174
LNLHCC	739	Northwest A&F University Certification Center	145
OTRDC	550	Research Institute of Environmental Protection of Xinjiang Production And Construction Crops	137

China Quality Certification Center	533	CERES Shanghai	45
Heilongjiang Agricultural Products Quality Certification Center	475	CEC	19
China Quality Mark Certification Group	431	Jilin Province Agricultural Products Certification Center	19

In 2015, a total of 24 organic certification bodies conducted organic certification on enterprises in China in accordance with Chinese Organic Standard. Please refer to the Table 2-2 for detailed information. In 2015, a total of 22 organic certification bodies conducted organic planting certification, 20 certification bodies conducted wild collection certification, 12 certification bodies conducted certification on organic livestock and poultry, and 16 certification bodies certified organic aquatic products. Seen from the overseas certification, a total of 10 organic certification bodies issued 196 certificates to 103 enterprises overseas in accordance with China's organic product standards. Please refer to the Table 2-3 for the number of certificates issued overseas by those 10 authorities.

Table 4: Top 10 organic certification bodies by the number of certificates issued overseas in 2015

Certification Bodies	Number	Certification bodies	Number
Organic Food Development and Certification Center of China	62	Beijing Ecocert Certification Center	9
WIT Assessment	52	Fangyuan Organic Food Certification Center	9
China Organic Food Certification Center	35	Guangdong Zhongjian Certification Corp., Ltd.	3
China Quality Certification Center	12	Beijing ZhongAn Authentication Center	2
CERES Shanghai	11	LNLHCC	1

Development trend of organic product certificates

The development trends of organic product certificates during 2004-2015 are shown in Figure 1. It can be seen from the figure that the number of certificates for organic products has been increasing continuously. In 2004, only 22 organic certificates were issued, and in 2015 the total number of certificates had surged to 12810. However, the growth rate showed a decline trend. The number of certificates issued in 2014 and 2015 increased by 1542 and 1311 respectively, a growth of 15.5% and 11.4%. The development trend of certificates for organic products reflects that the organic industry in China is developing in a rapid but steady state.

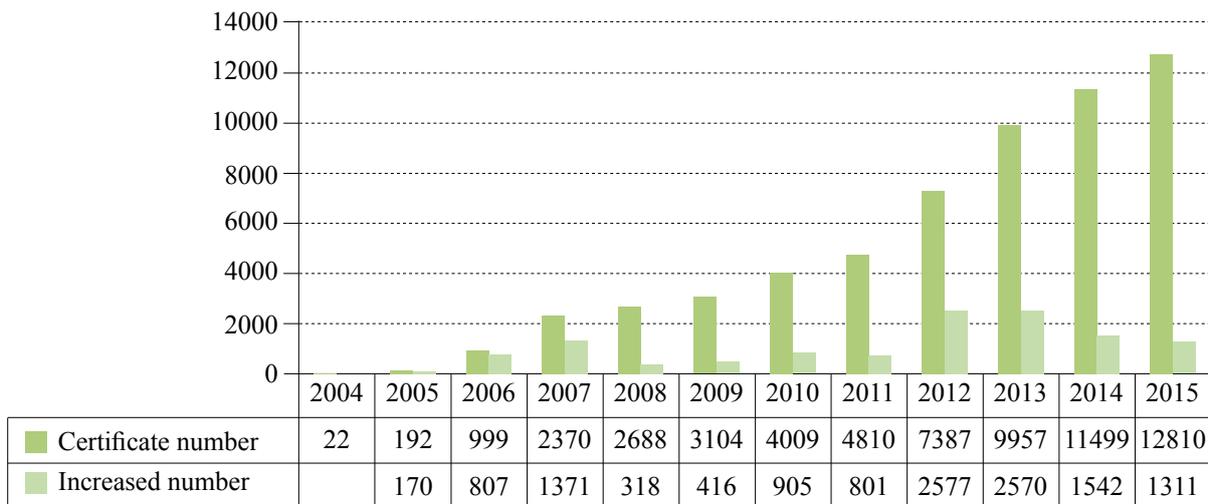


Figure 1: Development trend of organic product certificates in China during 2004-2015

Production, regional distribution and development trends of organic plant products

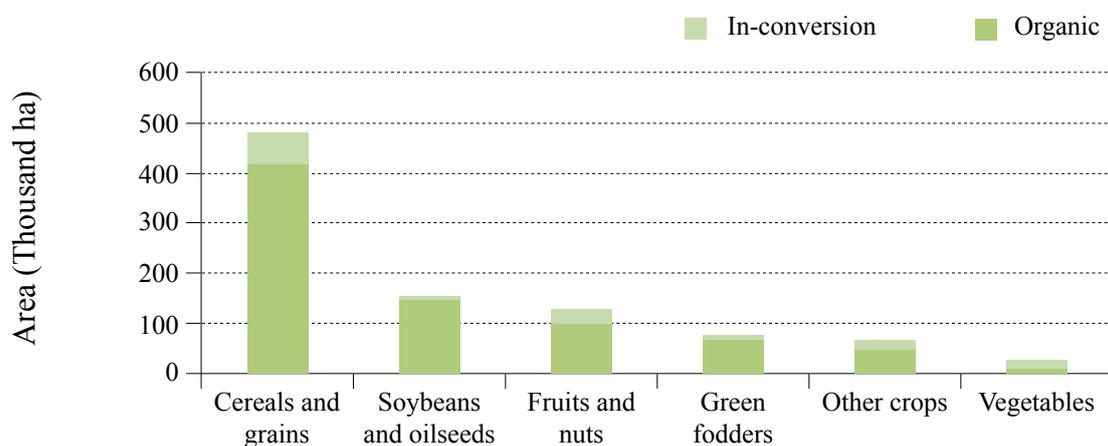
Overview of the production of organic plant products

Till December 31, 2015, the total area of organic plant production conformed with Chinese standards of organic products was 1.524 million hectares, and the planting area of organic products was 927 thousand hectares, and the area of wild collection was 597 thousand hectares. The total output of organic plant was 6.364 million tons, including 6.127 million tons of organic crops and 237,000 tons of wild collection.

Overview of organic crops production

Overview

By type, the crops with production area in descending order were cereals (481 thousand hectares), soybeans and other oil crops (160 thousand hectares), fruits and nuts (127 thousand hectares), green fodder (68 thousand hectares), other crops (70 thousand hectares) and vegetables (20 thousand hectares). The yield in descending order were cereals (2.601 million tons), green fodder (986 thousand tons), fruits and nuts (937 thousand tons), other crops (757 thousand tons), soybeans and other oil crops (403 thousand tons) and vegetables (442 thousand tons) (Figure 2).



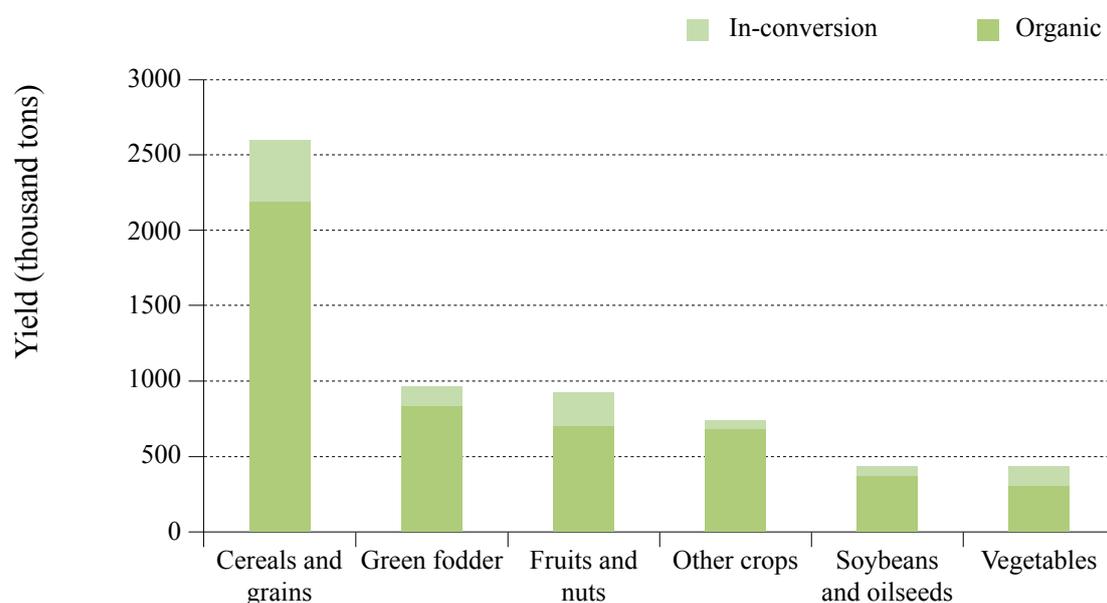


Figure 2: Production area and yield of various types of organic crops in China 2015

In terms of production area, the area in conversion period accounted for 21% of the total area and “other crops” took the largest part of area in conversion, which was 42%. Cereals, green fodders, soybeans and other oil crops took relatively low proportions in the total area in conversion, which were 6% to 8%. In terms of yield, a total of 11% was in conversion period with “other crops” taking the largest part at 30%. The proportions of “fruits and nuts” and vegetables all exceeded 20% while the proportions of other types of crops were all below 10%.

Regional distribution of organic crop production

Statistics showed that provinces with organic crop production area more than 50 thousand hectares were Heilongjiang, Liaoning, Inner Mongolia, Xinjiang and Guizhou in sequence. The organic planting area of the top five areas took up 62% of China's total area of planting organic products. And Heilongjiang planted 183 thousand hectares of organic products, accounting for 22% of the total area nationwide. China's northeastern and Xinjiang regions are two major regions that plant organic products.

Development trend of organic crop production

In terms of the production area of organic crops, the total area of organic crops planting in China increased yearly from 464 thousand hectares in 2005, to 940 thousand hectares in 2009, more than doubled of 2005. Starting from 2009, the area of organic production did not increase too much, but the area of land in conversion had an upward trend. The total area of organic production was increasing year by year, and in the past five years, it maintained 1-1.2 million hectares (Figure 3). In 2015, the total planting area of organic crops was 927 thousand hectares, decreased by 194 thousand hectares compared with that of 2014. As for the yield of organic production, it was about 2.78 million tons in 2005, and increased to 4.13 million tons in 2009. China's organic crop yield showed a growing trend as a whole, except that in 2015, the yield dropped by 1.17 million tons than that in 2014 to 5.73 million tons.

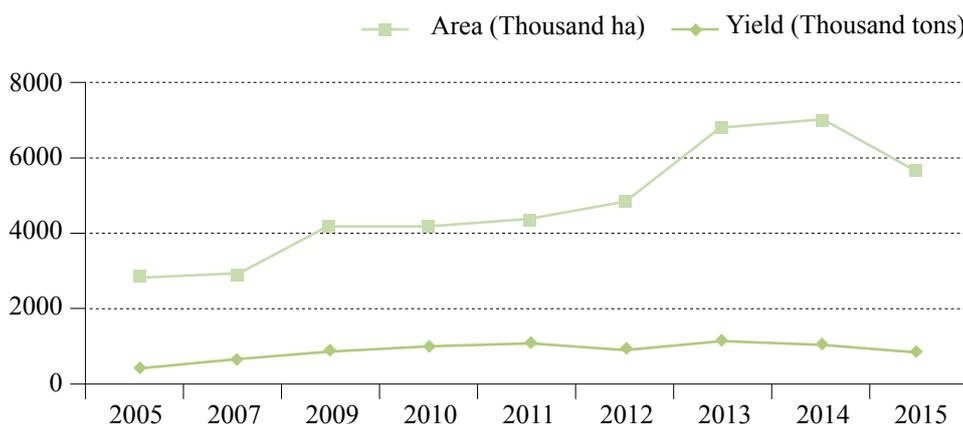


Figure 3: Development trend of organic planting area and yield

Production of different crops

Cereals

(1) Production overview

5318 certificates were issued to cereals in 2015, and 3585 of them were organic certificates and 1550 were organic conversion certificates. As shown in Figure 4, rice had 1595 certificate, the largest in quantity, followed by coarse cereals, corn, sorghum and wheat, which had 1108, 916, 526 and 494 certificates respectively.

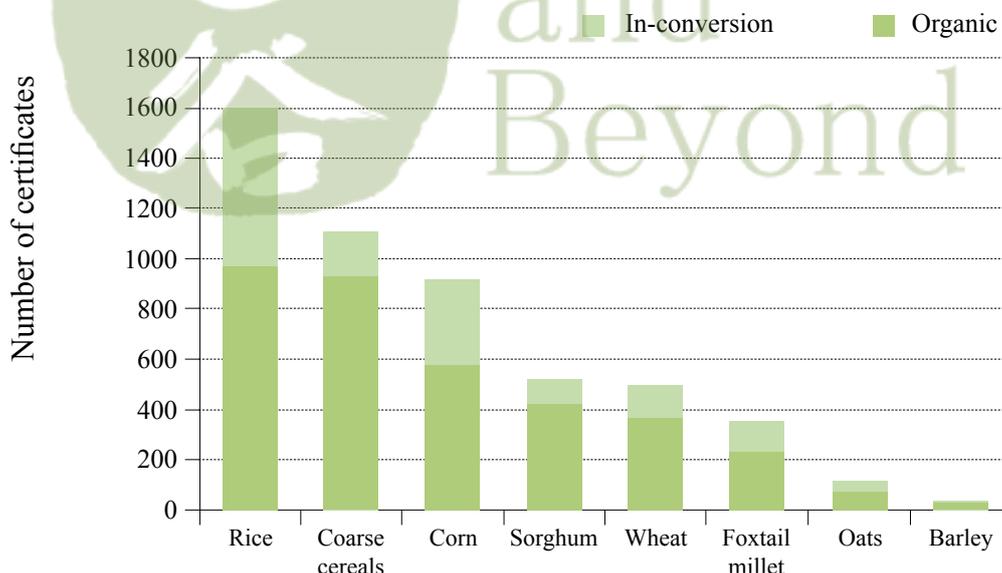


Figure 4: Certificates of organic cereals issued in China 2015

As shown in Figure 5, the total area of cereal production in 2015 was 481 thousand hectares, accounting for 67% of the total area for organic crop production. According to planting area, the crops in descending order were rice, wheat, corn, sorghum, coarse cereals, foxtail millet, oats and barley. And rice had the largest planting area of 150 thousand hectares, accounting for 31% of the total. And it was followed by wheat and corn, the planting areas of which were 110 thousand and 90 thousand hectares, accounting for 22% and 19% of the total certified area of cereals respectively. These three crops had a total production area of 350 thousand hectares, together accounting for 72% of the total certified areas of crops.

The total yield of certified cereals stood at 2.6 million tons in 2015, accounting for 45% of the total yield of organic planting. Ranked by yield, the top ones were rice, corn, wheat, sorghum, coarse cereals, foxtail millet, oats and barley successively. The yield of rice was still the highest as 920 thousand tons, accounting for 35% of the total certified cereals. It was followed by corn and wheat, whose yield stood at 720 thousand tons and 460 thousand tons, accounting for 28% and 18% of the total certified cereals respectively. The total yield of the three major food crops stood at 2.1 million tons, accounting for 81% of the total certified cereals.

Seen from the proportions of organic certification and conversion certification, the cereals area under the conversion period accounted for 7% of the total cereals planting area and the related yield for 15%. The area of oats and rice under the conversion period accounted for 21% and 20% respectively, and that of barley, coarse cereals and wheat all accounted for less than 10%. The yield of rice and corn under the conversion period both accounted for 19%, that of wheat, barley and coarse cereals accounted for less than 6% respectively, and that of other cereals accounted for 10%-18% respectively.

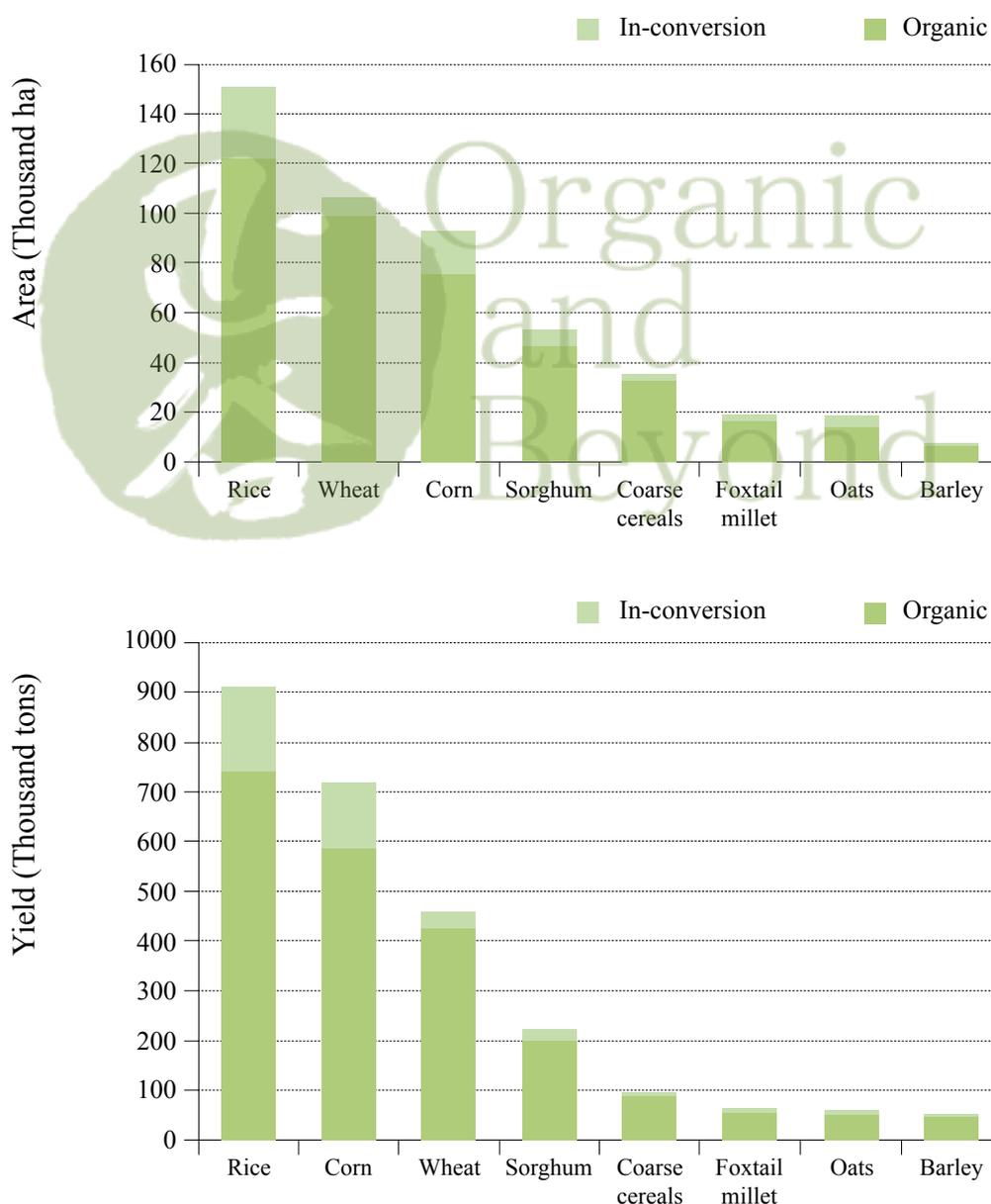


Figure 5: Production conditions of China's organic cereals in 2015

(2) Regional distribution

Organic cereals produced conformed with China's organic product standards are distributed in 32 provinces, cities and autonomous regions. Ranked by cereal production area, the top 10 are Heilongjiang Province, Guizhou Province, Liaoning Province, Inner Mongolia Autonomous Region, Jilin Province, Xinjiang Uygur Autonomous Region, Sichuan Province, Shandong Province, Hebei Province and Henan Province. The area of organic cereals in the top 10 provinces account for 84.2% of the total area in China, which is closely related to the planting characteristics and climatic conditions of these provinces and cities.

Seen from the area, Heilongjiang Province ranked No.1 with 137 thousand hectares, accounting for 28% of the total organic cereals area; Guizhou Province ranked No. 2 with 89 thousand hectares of production area, accounting for 18% of the total area; provinces ranking from No. 3 to No. 5 are Liaoning (89 thousand hectares, 12%), Inner Mongolia (53 thousand hectares, 11%) and Jilin (17 thousand hectares, 3%); the organic cereals production area of the five provinces accounting for 72% of the total. Seen from the yield, the yield in Heilongjiang reached about 810 thousand tons, accounting for 39% of the total organic cereals yield in China, and with the organic cereals yield of Guizhou, Liaoning and Inner Mongolia counted, the 4 provinces account for 69% of the total organic cereals yield in China.

(3) Development trend

The Figure 6 shows the changes of China's organic cereals production area from 2009 to 2015. It can be seen from the graph that the organic cereals production area showed a rising tendency. From 2011, the area basically maintained at 500 thousand hectares for four years. However, the production area had declined for two consecutive years since 2013, and the planting area in 2015 declined by about 16% compared with that of 2014. In 2015, the production area of rice and corn decreased by 40 thousand hectares respectively compared with 2014, and the production area of wheat and foxtail millet increased by 10 thousand hectares respectively while that of sorghum and barley maintained basically unchanged.

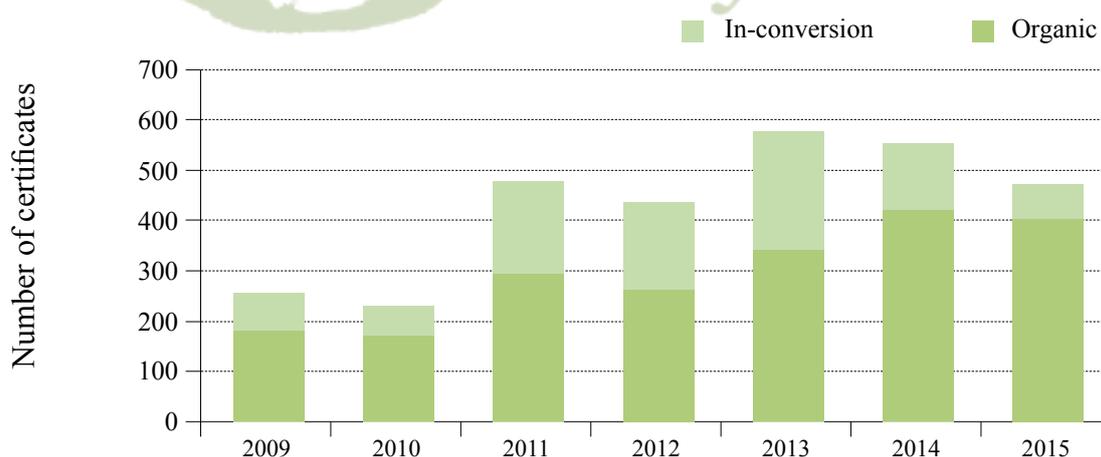


Figure 6: The changes of China's organic cereals production area from 2009 to 2015

Fruits and nuts

(1) Production overview

The total number of certificates issued for organic fruits and nuts products in 2015 stood at 2,309, and 1,019 of them were organic certificates and 1,290 of them were organic conversion certificates. Categorized by the variety of organic fruits and nuts, the top 3 with the largest number of certificates

in 2014 were other fruits (729), grapes (346) and apples (247) (Figure 7).

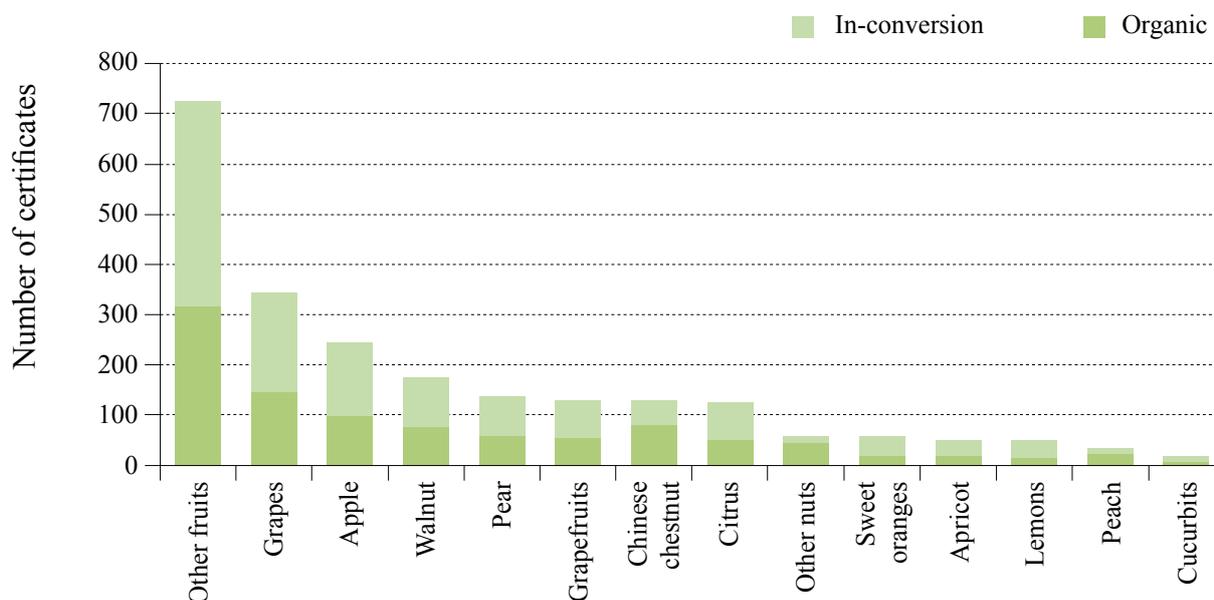
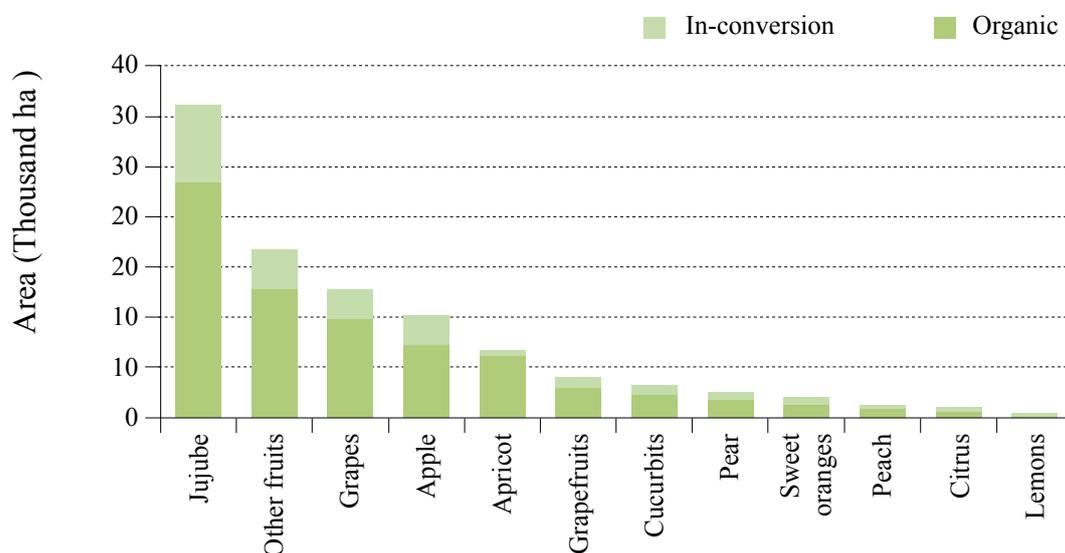


Figure 7: Certificate issuing condition of China's organic fruits and nuts 2015

The total planting area of organic fruit and nut stood at 130 thousand hectares in 2015, accounting for 10% of the total planting area of organic crops. The total yield of organic fruit and nut stood at 937 thousand tons in 2015, accounting for 16% of the total certified yield of organic crops nationwide. The planting area and yield of organic fruit and nut under the organic conversion period accounted for 22% and 30% respectively of the total organic fruit and nut.

Seen from the area, the total planting area of certified organic fruits stood at 92.5 thousand hectares. Ranked by the planting area, the top 10 organic fruits and nuts are jujube, walnut, hazelnut, apple, Chinese chestnut, coconut, kiwi, blueberry, pear and apricot. Sorted by the main categories (Figure 8), jujube had the largest production area as 30,000 hectares, accounted for 33% of the total area of organic fruits and nuts products; other fruits ranked No. 2 with the production area of 16 thousand hectares, accounted for 18%. Ranking of fruits and nuts from No. 3 to No. 5 were grape, apple and apricot. The production area under the organic conversion period accounted for 20%- 40% for most of the fruits while that of lemon fruits accounted for the highest proportion as 75%.



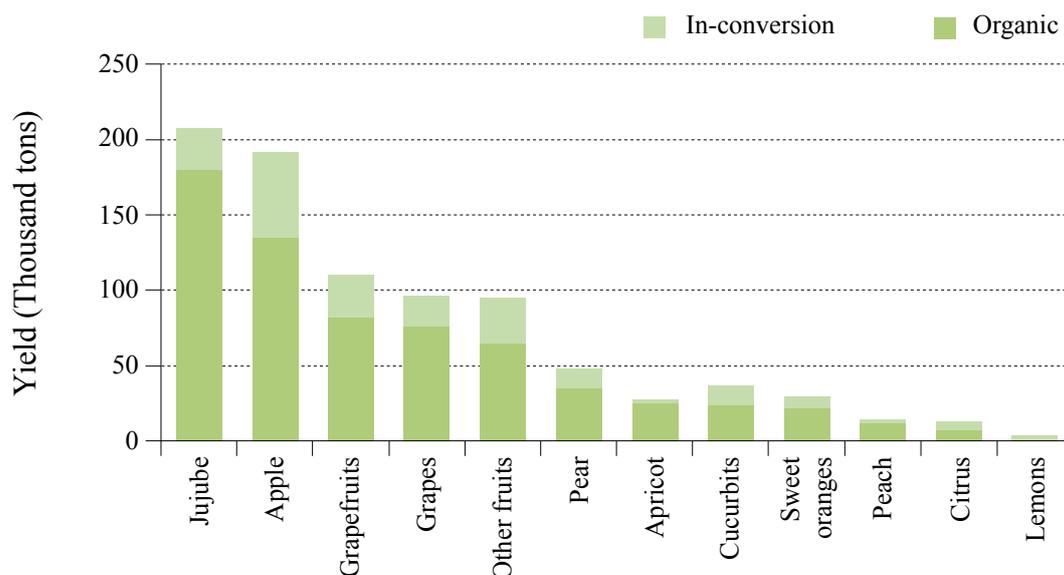


Figure 8: The production situation of China's organic fruits in 2015

Seen from the yield, the total yield of organic fruits stood at 880 thousand tons. Ranked by the variety of crops, the top 10 organic fruits and nuts were apple, jujube, pear, walnut, kiwi, mangosteen, coconut, peach, mango and Chinese chestnut. Jujube boasted the largest yield of 210 thousand tons, accounting for 24% of the total yield of organic fruit and nut products; organic apple boasted a yield of 190 thousand tons, accounting for 22%. Those ranking from No. 3 to No. 5 were grapefruits, grapes and other fruits. The yield of most fruits in organic conversion period accounted for 20%-30% while that of lemon fruits accounted for the highest proportion as 80%.

Seen from the area, the total area of organic nuts stood at 37 thousand hectares (Figure 9), and the production area of walnut was the largest with 19 thousand hectares. Walnut's production area under the conversion period accounted for the largest proportion as 26%. It was followed by other nuts and Chinese chestnut, accounted for 12% and 6% respectively. Seen from the yield, the total yield of organic nuts stood at 60 thousand tons, accounted for 6.8% of the total organic fruits and nuts yield, and the yield of the walnut was the largest with 32.5 thousand tons. The proportion of the yield of other nuts, walnut and Chinese chestnut that were under organic conversion period stood at 59%, 23% and 6% respectively.

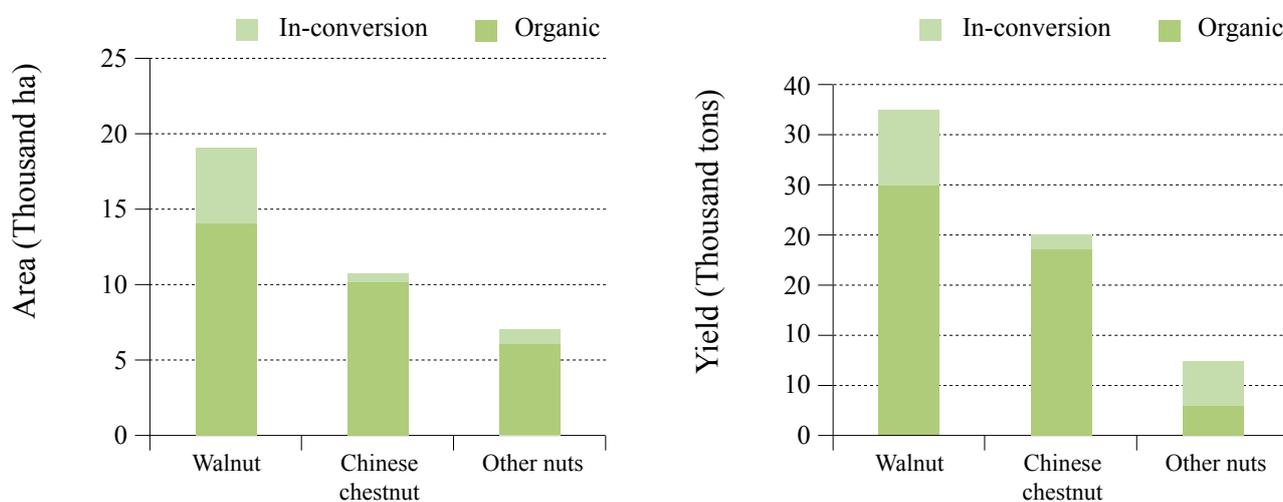


Figure 9: The production situation of China's organic nuts in 2015

Please refer to the Figure 10 for the top 10 organic fruits and nuts by the number of certificates obtained in 2015, and walnut and Chinese chestnut were nuts while the remaining 8 were all fruits. The largest number of certificates (244) were issued for apple, with 238 enterprises receiving certificates; it was followed by walnut and jujube, with the certificate number as 175 and 156 and the number of enterprise receiving certificates as 169 and 137 respectively. Apple, walnut, pear, jujube and Chinese chestnut always ranked within top 10 either by certificate number, area or yield.

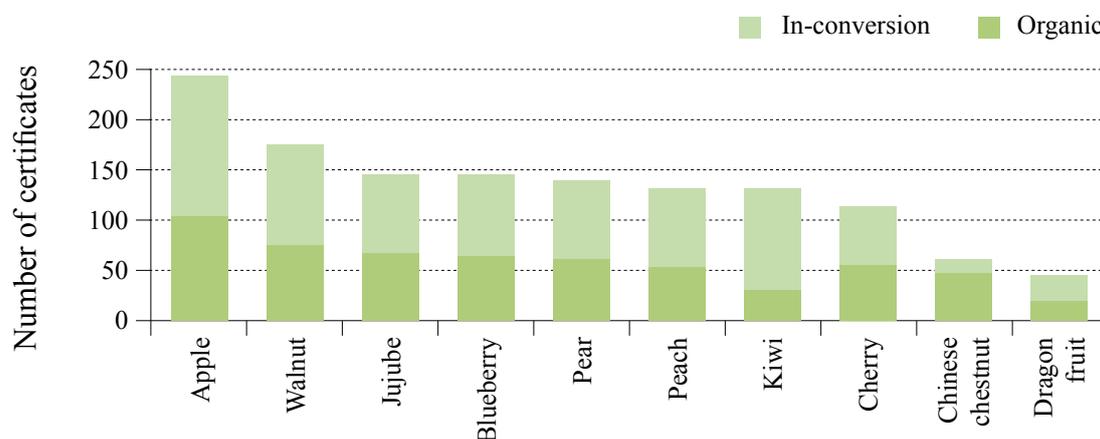


Figure 10: The top 10 fruits and nuts by the number of certificates obtained in China 2015

(2) Regional distribution

Except Tibet and Qinghai, organic fruits and nuts are produced in all other provinces and regions in China. Seen from the production area, the production area of organic fruits and nuts in Xinjiang stood at 36 thousand hectares, accounting for 29% of the total area and ranking No. 1 in China, that of Shanxi stood at 14 thousand hectares, accounting for 11% and ranking No. 2, and that of Shanxi stood at 10 thousand hectares, accounting for 8% and ranking No. 3. The sum areas of the three provinces accounted for 48% of the total area of organic fruits and nuts in China. Seen from the yield, Xinjiang's organic fruits and nuts yield reached about 300 thousand tons, accounting for 34% of the total yield; Shanxi's yield stood at 130 thousand tons, accounting for 15%.

(3) Development trend

From 2009 to 2015, the changing trend of China's organic fruits and nuts production area was unstable (Figure 11). In 2011, the area reached the top and from 2013, China's organic fruits & nuts production area decreased year by year. Compared with 2012, the total production area of organic fruits & nuts increased by 9.9% in 2013. In 2014, the planting area of organic fruits & nuts decreased by 85,000 hectares compared with 2013, while in 2015, it decreased by 8,000 hectares compared with 2014.

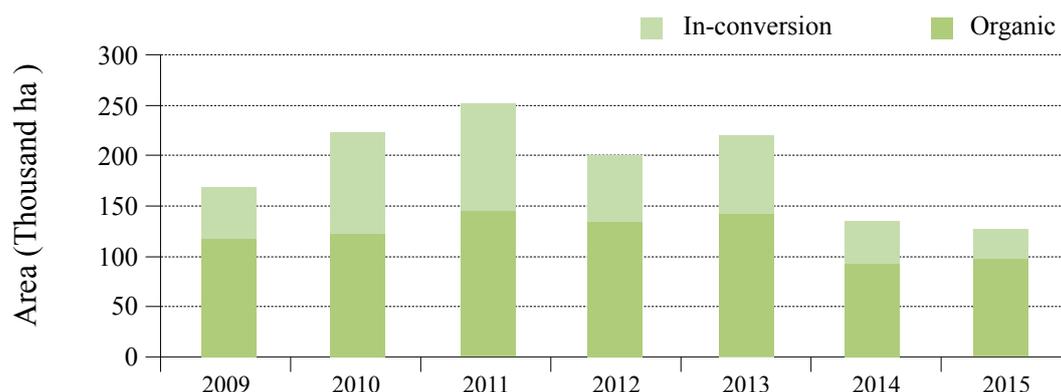


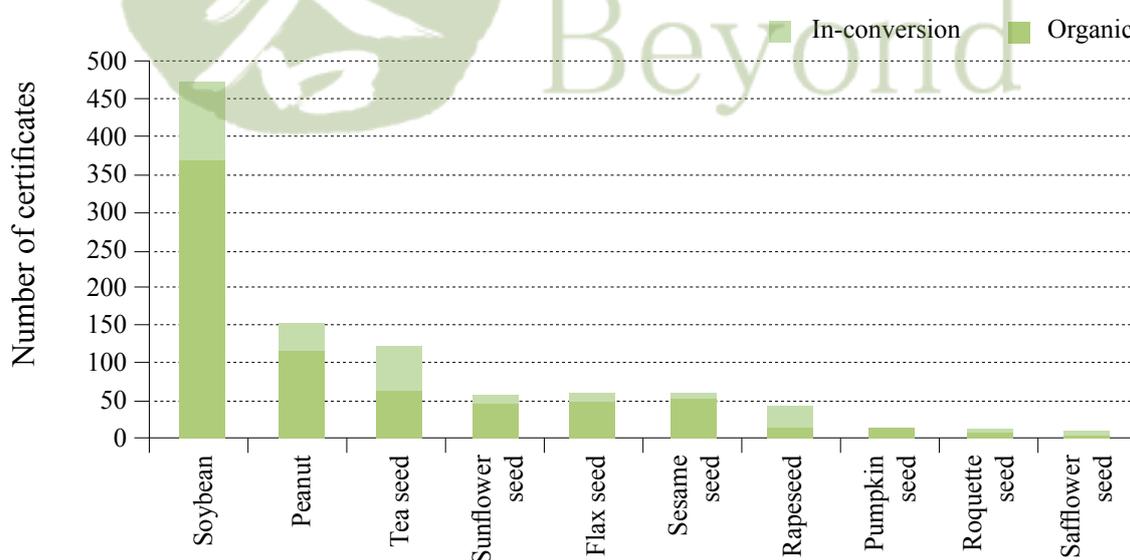
Figure 11: The changing trend of China's organic fruits & nuts' production area in 2009-2015

(1) Overview of production

Oil crops include soybean and other oil crops. The number of certificates issued for soybean in 2015 stood at 474, and the number of organic certificate was 367 and the number of the organic conversion certificates was 107, with those certificates issued to 359 enterprises. The number of certificates issued for other oil crops in 2015 stood at 435, and the number of organic certificate was 284 and the number of the conversion certificates was 151, with those certificates issued to 386 enterprises.

The total area of certified organic oil crops in China stood at 160 thousand hectares, and the total yield stood at 400 thousand tons in 2015. The production area of organic soybean stood at 95 thousand hectares, accounting for 59% of that of all oil crops while the production area of other oil crops stood at 65 thousand hectares, accounting for 41%. The yield of organic soybean stood at 260,000 tons, accounting for 65% while that of other organic oil crops stood at 140,000 tons, accounting for 35%.

Sorted by single kind of organic product, among all certified oil crops in 2015, the soybean boasted the largest number of certificates (Figure 12) as 474, which were issued to 359 enterprises; it was followed by peanut and tea seed with the number of certificate of 152 and 123, which were issued to 140 and 115 enterprises respectively. Ranked by the area, the top 10 organic oil crops were soybean, tea seed, sunflower seed, rapeseed, peanut, flax seed, safflower seed, camellia seed, sesame seed and pumpkin seed. Ranked by the yield, the top 10 organic oil crops were soybean, tea seed, sunflower seed, peanut, rapeseed, flax seed, safflower seed, sesame seed, pumpkin seed and camellia seed. Soybean, peanut, tea seed and sunflower seed always ranked within top 5 either by certificate number, area or yield.


Figure 12: The top 10 organic oil crops by the number of certificates obtained in China 2015

(2) Regional distribution

Organic oil crops produced conformed to China's organic product standards are distributed in 29 provinces and cities. Ranked by production area, Heilongjiang Province ranked No. 1 with 45 thousand hectares of organic oil crops, accounting for 28% of the total area; Liaoning Province ranked No. 2 with 33 thousand hectares, accounting for 21% of the total area. The main oil crop

of Heilongjiang and Liaoning is soybean, and the production area of the organic oil crops in these 2 provinces accounted for 49% of the total production area of China, nearly half of the total area. Henan Province ranked No. 3 with 14 thousand hectares. Seen from the yield, the yield of the organic oil crops in Heilongjiang reached about 118 thousand tons, accounting for 30% of the total yield in China, and that in Liaoning stood at 98 thousand tons, accounting for 25% and ranking No. 2.

(3) Development tendency

From 2010 to 2013, the production area of organic soybean and other oil crops showed an overall gradual increase tendency with a limited growth rate. However, from 2014, the total number of production area began to decline. In 2014, the total area decreased by 10,000 hectares compared with 2013, and in 2015, the total area decreased by 70,000 hectares compared with 2014. In 2015, China's total area of certified organic oil crops stood at about 160,000 hectares, and the planting area under the organic conversion period accounted for 6% of the total planting area of organic oil crops (Figure 13).

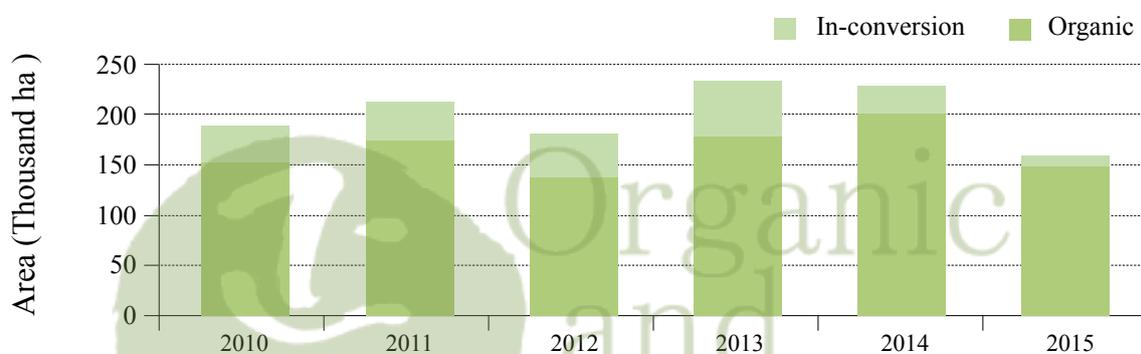


Figure 13: The changing trend of China's organic oil crops area in 2010-2015

Table 5: The certificate-issuing condition of China's other organic crops in 2015

Product	Organic	In-conversion	Total
Tea	630	492	1122
Botanical herb	193	236	429
Flowering plant	39	54	93
Spice crop	31	15	46
Sugar-making plant	14	8	22
Botanical raw material for textile	9	10	19
Seed and propagating material	8	5	13
Flavoring plant	7	3	10

Other organic crops

Other organic crops include tea, green fodders, botanical herb, botanical raw material for textile, etc. Since the production area of the green fodders is relatively large, a separate analysis for green fodders is given in this report. Also, an analysis on organic tea planting will be given separately in the Chapter 4 of this book.

The number of certificates issued for other organic crops in 2015 stood at 1,754 (Table 5), and the number of organic certificates was 931 and the number of the organic conversion certificates was 823, with those certificates issued to 1,658 enterprises. The tea boasted the largest number of certificates as 1,122, which were issued to 1,067 enterprises; the botanical herb ranked No. 2 with 429 certificates, which were issued to 403 enterprises; flavoring plant ranked last with only 10 certificates issued to 9 enterprises.

In 2015, the total planting area of other organic crops in China stood at 70,000 hectares (Table 6), and the organic planting area was 49,000 hectares and the converted planting area was 21,000 hectares. The area of tea, botanical herb and flowering plant was 44,000 hectares, 10,000 hectares and 4,000 hectares respectively, which ranked top 3 by its production area. As shown in the Table 7, in 2015, the total yield of other organic crops in China stood at 257,000 tons; the production area of sugar-making plant was limited but its yield ranked No. 1 among all 7 crops as 91,000 tons; the yield of tea ranked No. 2 with 77,000 tons.

Table 6: The areas of China's other organic crops in 2015 (unit: thousand ha)

Crop	Organic	In-conversion	Total
Tea	34.1	10.3	44.4
Botanical herb	6.6	3.4	9.9
Flowering plant	3.0	0.7	3.7
Spice crop	2.4	2.5	4.9
Botanical raw material for textile	1.8	3.6	5.4
Sugar-making plant	0.9	0.00	0.9
Seed and propagating material	0.1	0.2	0.3
Flavoring plant	0.1	-	0.1

Table 7: The yields of China's other organic crops in 2015 (unit: thousand tons)

Crop	Organic	In-conversion	Total
Sugar-making plant	90.4	0.2	90.6
Tea	58.3	18.7	77
Spice crop	3.0	30.8	33.8
Botanical raw material for textile	8.0	13.2	21.2
Botanical herb	7.9	12.1	20.0
Flowering plant	95	40	13.5
Seed and propagating material	0.6	0.1	0.7
Flavoring plant	0.1	-	0.1

Other organic crops were produced in 29 provinces, cities and autonomous regions of China in 2015. Seen from regional distribution, Yunnan Province boasted the largest production area as 13,395 hectares, mainly for tea planting, Sichuan Province ranked No. 2 with 7,026 hectares, and Zhejiang Province ranked No. 3 with 3,256 hectares, and the sum area of the three provinces accounted for 36% of the total production area of the other organic crops. Besides Zhejiang Province, the production area of Henan, Guangxi, Inner Mongolia, Xinjiang, Guizhou, Fujian, Hubei and Anhui also stood between 2,500-5,000 hectares.

Compared with 2014, in 2015, the area and yield of other organic crops both increased (Figure 14), with the growth of area standing at 3,932 hectares. The area growth rate of the seed and propagating material was large as 70%, and that of the botanical herb and spice crops were 19% and 12% respectively while the area of flavoring plant and flowering plant decreased. Although the planting area of botanical herb increased for consecutive 3 years in 2013, 2014 and 2015, its yield decreased year by year.

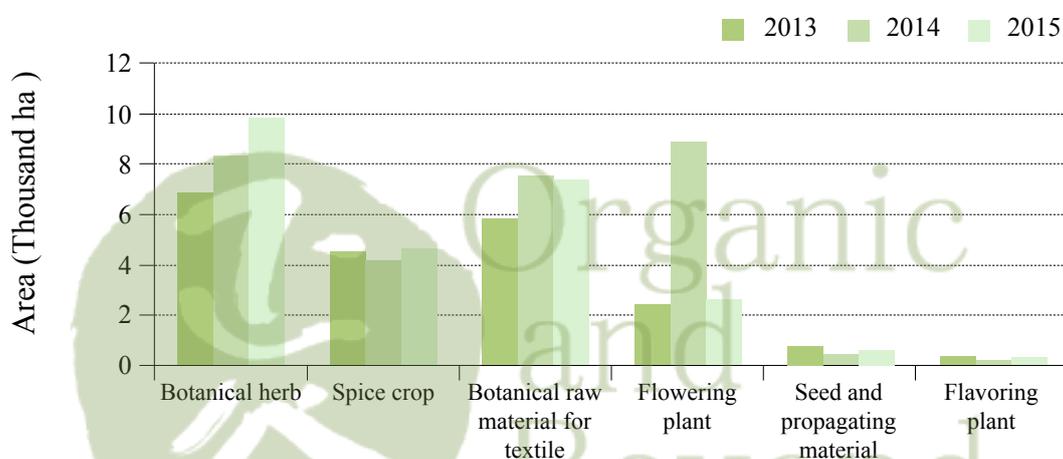


Figure 14: The production areas of China's other organic crops from 2013 to 2015

The number of certificates issued for green fodders in 2015 stood at 216, and the number of organic certificate was 115 and the number of the organic conversion certificates was 101, with those certificates issued to 182 enterprises. In 2015, the total production area of organic green fodder stood at 68 thousand hectares, and the organic production area stood at 63 thousand hectares, accounting for 93% of the total area. The total yield of organic green fodder stood at 990 thousand tons. The production regions of organic green fodder are mainly in northeast and northwest China, which is consistent with the regional distribution of livestock breeding in China. In 2015, there were totally 20 provinces, cities and autonomous regions in China engaged in organic green fodder production, and Inner Mongolia ranked No. 1 by its production area of organic green fodder as 46 thousand hectares, accounting for 68% of total production area, Heilongjiang ranked No. 2 with 5,700 hectares, accounting for 8%, and Xinjiang ranked No. 3.

Wild collection

Overview of certification and production

The area of organic wild collection products in China in 2015 stood at 597 thousand hectares, and the total yield stood at 237 thousand tons. The wild collection products include wild edible mushroom, nut, fruit, wild vegetable and Chinese herbal medicine. The Figure 15 shows the top ten organic wild collection products in 2015 with the largest number of certificates, among which there are 3 edible mushrooms, 3 nuts, 1 other-type crop, 1 vegetable, 1 Chinese herbal medicine

and 1 camellia seed species. The tea seed boasted the largest number of certificate as 57, which were issued to 56 enterprises; it was followed by bamboo shoots, with 33 certificates issued to 33 enterprises; both agaric and mushroom's certificates number stood at 25, which were issued to 25 enterprises respectively. The certificates number and the number of enterprises receiving certificates of other products all stood at around 20.

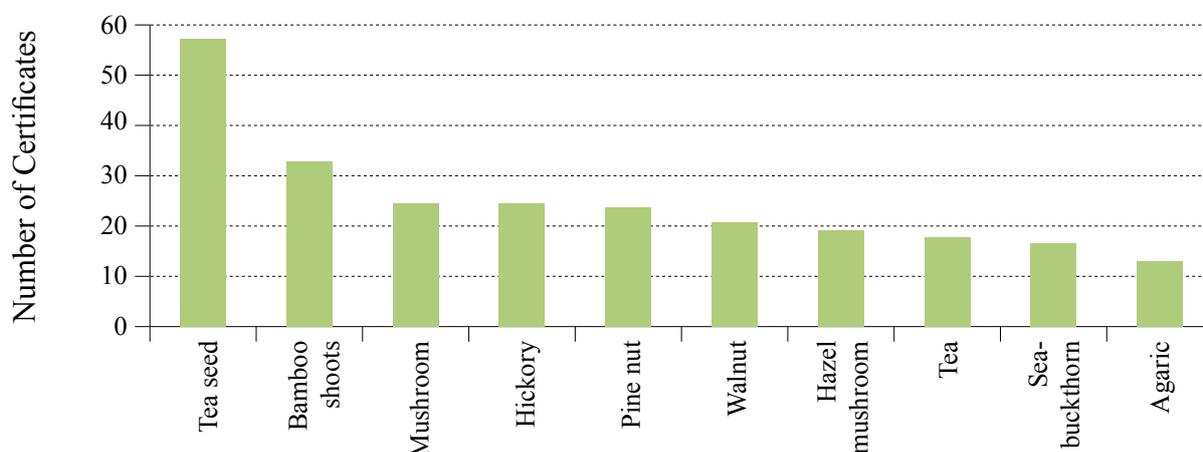


Figure 15: The top 10 organic wild collection products by the number of certificate obtained in China 2015

Regional distribution

The main production areas of China's organic wild collection products are the northeastern and northwestern China. Ranked by the production area, the top 5 provinces are Heilongjiang (195 thousand hectares), Inner Mongolia (86 thousand hectares), Qinghai (67 thousand hectares), Jiangxi (52 thousand hectares) and Zhejiang (31 thousand hectares), while the area of the organic wild collection products in the eastern coastal areas is quite limited.

Development trend

Please refer to the Figure 16 for the changing trend of the area and yield of the organic wild collection products from 2005 to 2015. From 2011, the area showed a declining tendency. Compared with 2014, the area and yield in 2015 decreased by 27.2% and 61.8% respectively that mainly due to the area decrease in wild collection fruit, whose area decreased by 380 thousand hectares and yield decreased by 390 thousand tons. The area and yield of the wild edible mushroom, other oil crops and botanic herb increased totally by 210 thousand hectares and 60 thousand tons respectively.

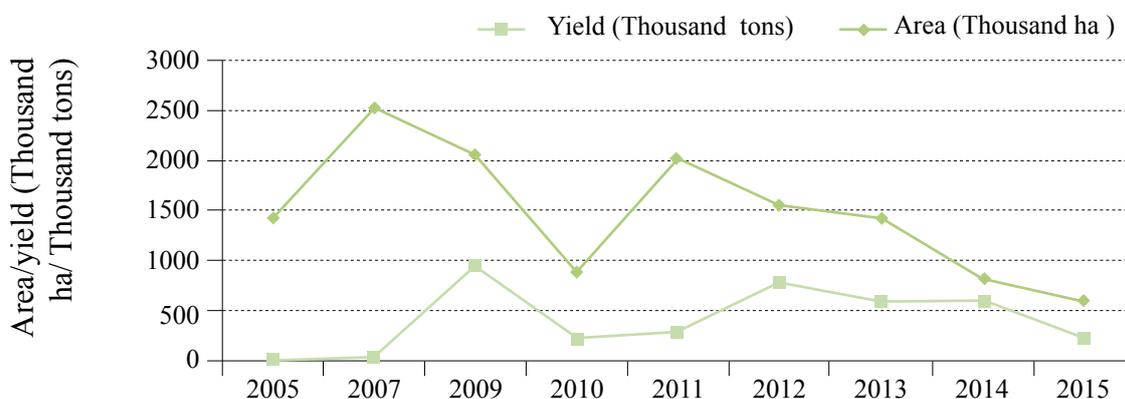


Figure 16: The changing trend of the area and yield of China's wild collection products in 2005-2015

Production, Regional Distribution and Development Trends of China's Organic Livestock and Poultry Products

Overview of Certification and Production

In 2015, the main organic livestock and poultry in China included chicken, pig, sheep, beef cattle, dairy cattle, goat, duck and other animals. In 2015, the number of certificates issued for the organic livestock and poultry stood at 632, and 482 (76%) of them were organic certificates and 153 (24%) of them were organic conversion certificates. The number of certificates issued for organic chicken was the largest as 153, and it was followed by pig (149), sheep (149), cattle (149) and other animals (46) (Figure 17).

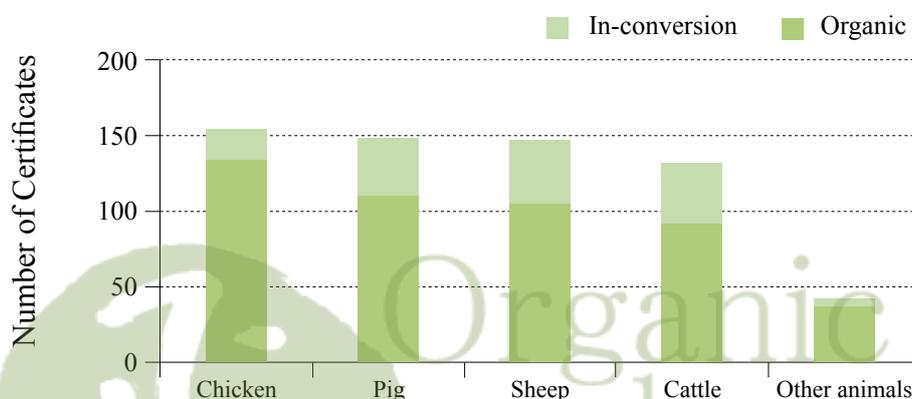


Figure 17: The certificate-issuing situation of China's organic livestock and poultry in 2015

In 2015, among the organic livestock fed conformed to China's organic standards, there were 5.37 million of organic sheep, nearly 1.4 million of organic cattle and nearly 130 thousand organic pigs. Seen from the yield, the total yield of organic livestock stood at 255 thousand tons, and the yield of organic sheep was 103 thousand tons, that of organic cattle and organic pig were 106 thousand tons and 24 thousand tons respectively, while that of other animals such as horse, donkey and deer accounted for a rather low proportion (Figure 18).

In terms of organic poultry breeding, in 2015, there were nearly 730 thousand organic chickens in China, which is dominating in the organic poultry production; the number of organic duck ranked No. 2 with nearly 50 thousand ducks and organic goose ranked No. 3 with more than 30 thousand geese. In 2015, the total yield of organic animal products stood at 770 thousand tons, and the yield of organic milk, the main organic animal product, was 760 thousand tons, accounting for 99% of the total yield; the yield of organic egg was 3,000 tons, accounting for 0.4%. Information on organic dairy products is provided in detail in the Chapter 4 of this book.

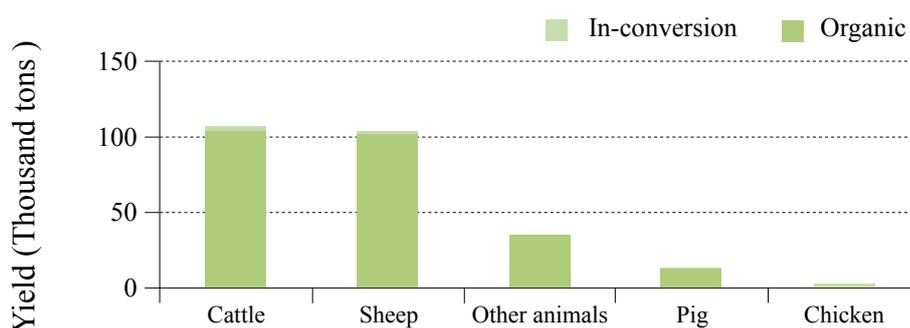


Figure 18: The production situation of China's organic livestock and poultry in 2015

Regional distribution of the organic livestock and poultry breeding industry

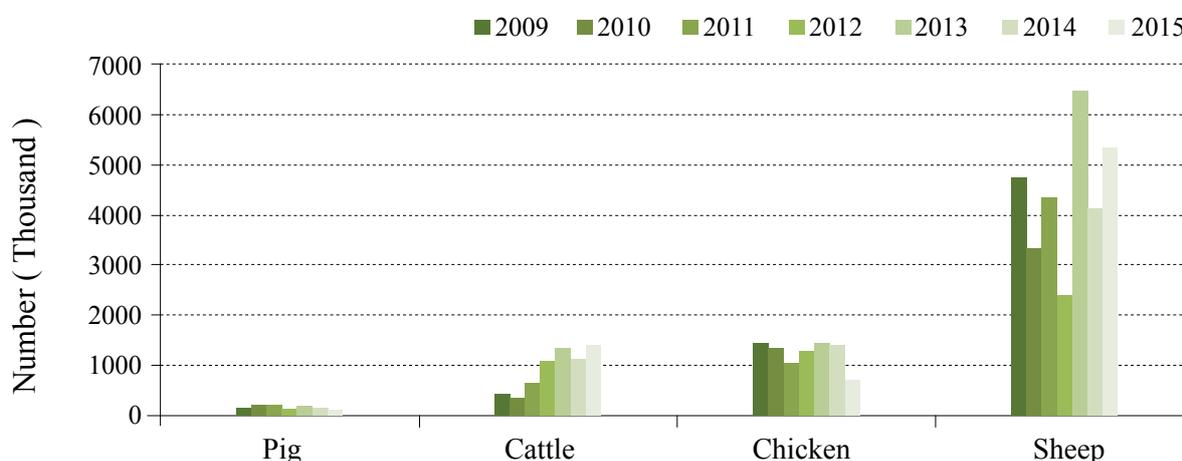
Except Taiwan and Macao, organic livestock and poultry production is distributed in other 32 provinces, cities and autonomous regions of China. Ranked by the number of organic pig breeding, the top five provinces are Heilongjiang Province (33 thousand), Anhui Province (22 thousand), Sichuan Province (21 thousand), Jilin Province (8,000) and Shanxi Province (5,000), the sum number of the five provinces accounted for 75% of the total organic pig breeding. These 5 provinces are also big provinces for food production, which provides rich sources for organic fodder. In addition, there are other 15 provinces, cities and autonomous regions also engaged in organic pig breeding.

In 2015, there were 16 provinces, cities and autonomous regions engaged in organic beef cattle breeding. Ranked by the number of breeding, the top five provinces are Xinjiang Uygur Autonomous Region (340 thousand), Sichuan Province (28 thousand), Qinghai Province (19 thousand), Inner Mongolia Autonomous regions (9,000) and Beijing (7,000), the sum number of the five provinces, cities and autonomous regions accounted for 97% of the total organic beef cattle breeding. In terms of the number of organic sheep breeding, Qinghai and Xinjiang ranked No. 1 and No. 2 with 3.19 million and 1.72 million sheep respectively, while Inner Mongolia, Tibet and Gansu ranked from No. 3 to No. 5 and the sum of these five provinces cities and autonomous accounted for 99% of the total number of organic sheep breeding.

Seen from the above analysis, the breeding areas of organic livestock are mainly in northwestern China by means of grazing. In terms of organic poultry breeding, the number of organic chicken is the largest, and the organic chicken breeding is distributed in 21 provinces, cities and autonomous regions, with the top 5 ones as Beijing, Sichuan Province, Xinjiang Uygur Autonomous Region, Anhui Province and Guangdong Province, accounting for 78% of the total organic chicken breeding.

Development trend

The Figure 19 shows the production situation of China's major organic livestock and poultry from 2009 to 2015. Seen from it, the number of organic pig is less than that of organic cattle, organic chicken or organic sheep. The number of organic pig was relatively stable in the range of 150 thousand to 220 thousand. The number of organic cattle increased significantly. The number of organic chicken basically maintained in the range of 1.1 million to 1.5 million. The number of organic sheep was the largest but not stable, and fluctuated in these 6 years; its number in 2015 increased by 1.23 million compared with 2014.


Figure 19: The production situation of China's main organic livestock and poultry in 2009-2015

Development situation of China's organic aquatic products

General situation of certification and production

In 2005, the number of certificates issued for organic aquatic products stood at 434, and 363 of them were organic certificates (88.53%) and 71 were organic conversion certificates (11.47%). The number of certificates for fresh fish was the largest as 231, accounting for 53% of the total certificate number of aquatic products. It was followed by crustacean and invertebrate (104), aquatic vertebrate (42) and aquatic plants (28) (Figure 20).

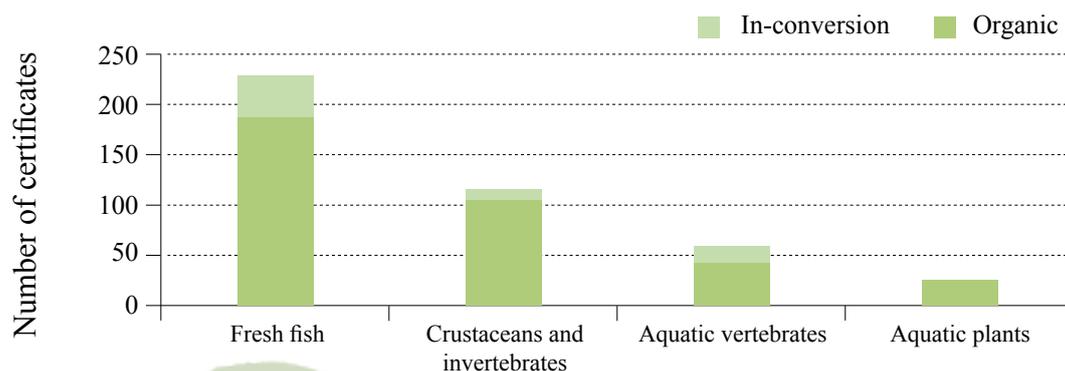


Figure 20: The certificate-issuing situation of China's organic aquatic products in 2015

The total yield of aquatic products in 2015 stood at 303 thousand tons, and aquatic plant products (mainly sea tangle and nori in the seawater) stood at 188 thousand tons, accounting for 62% of the total yield of certified aquatic products, fresh fish (freshwater fish and marine fish; freshwater fish occupied a proportion of 97%) stood at 71 thousand tons, accounting for 23%, crustacean and invertebrate products stood at 36 thousand tons, accounting for 12%, and aquatic vertebrate (soft-shelled turtle) stood at 8,000 tons, accounting for only 3% (Figure 21). Seen from the proportions of the organic product and product under the conversion period, the aquatic plant, fresh fish, crustacean & invertebrate and aquatic vertebrate under the conversion period all accounted for less than 1% respectively.

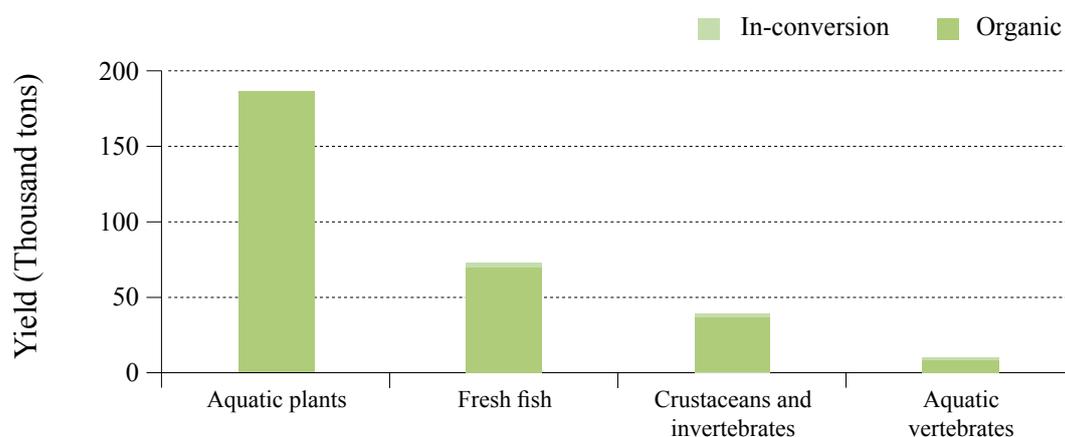


Figure 21: The production situation of China's organic aquatic products in 2015

Regional distribution

Seen from the regional distribution, Shandong Province boasted the largest yield of organic aquatic product as nearly 177 thousand tons, and the aquatic plant products (mainly sea tangle) stood at 164

thousand tons. It was followed by Hubei, Liaoning, Fujian and Chongqing, ranking from No. 2 to No. 5. The main aquatic product in Hubei is freshwater fish, the main aquatic products in Liaoning are sea cucumber and mussels, those in Fujian are seaweeds and those in Chongqing are freshwater fish and soft-shelled turtle. Organic fish production covers 24 provinces and cities while aquatic plant products are produced only in 7 coastal provinces such as Shandong, Fujian, Zhejiang and Liaoning.

Development trend of the organic aquatic products

Seen from the total yield, the production of aquatic products still increased year by year from 170 thousand tons in 2009 to 320 thousand tons in 2011, and for the following 3 years it basically maintained at about 300 thousand tons. The production of aquatic plant products increased year by year, with the largest yield among aquatic products; it maintained at more than 160 thousand tons from 2012 to 2014, but decreased by 34 thousand tons in 2015 compared with 2014. Freshwater fish accounted for an absolute majority of the production of fresh fish, whose yield maintained basically stable at around 100 thousand tons from 2009 to 2013, but it decreased by 8,000 tons in 2015 compared with 2014. The production of crustacean and invertebrate fluctuated largely; it maintained a rising trend from 2009 to 2011 and from 2012 to 2013, but decreased by 2,000 tons in 2015 compared with 2014. The yield of aquatic vertebrate (mainly soft-shelled turtle) kept low; there was no production in 2009, the yield stood at only 4,000-5,000 tons from 2010-2011, increased to 10 thousand tons in 2013 but decreased to only 561 tons in 2014, and increased by 7,000 tons in 2015 compared with 2014 (Figure 22).

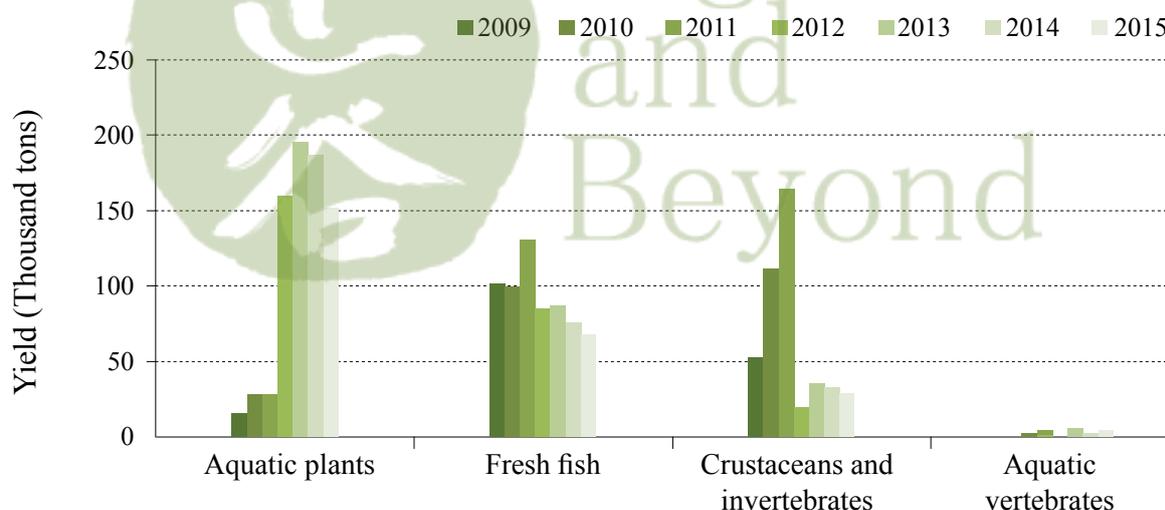


Figure 22: The changing trend of the production of China's organic aquatic products in 2009-2015

Certification, regional distribution and development trends of China's organic processed products

General Situation of Certification and Production

In the Organic Products Catalogue, processed organic products are divided into 20 categories according to different economic industries. Except beer and baked food, the other 18 categories of organic processed products were produced and certified in 2015. In 2005, the number of organic certificates issued for organic processed products stood at 4,209, and 3,635 of them were organic certificates and 574 were conversion certificates, which were issued to 4,023 enterprises. The number of certificates for cereal grinding product was the largest as 1,830, which were issued to 1,757

enterprises. It was followed by non-classified foods, with 949 certificates issued to 912 enterprises. The organic processed products with more than 100 certificates also included vegetable oil processed product, processed and preserved fruit and nut, meat product and by-products processed product, processed or preserved vegetable, cereal flour products such as noodle as well as fermented wine such as wine and fruit wine (Figure 23).

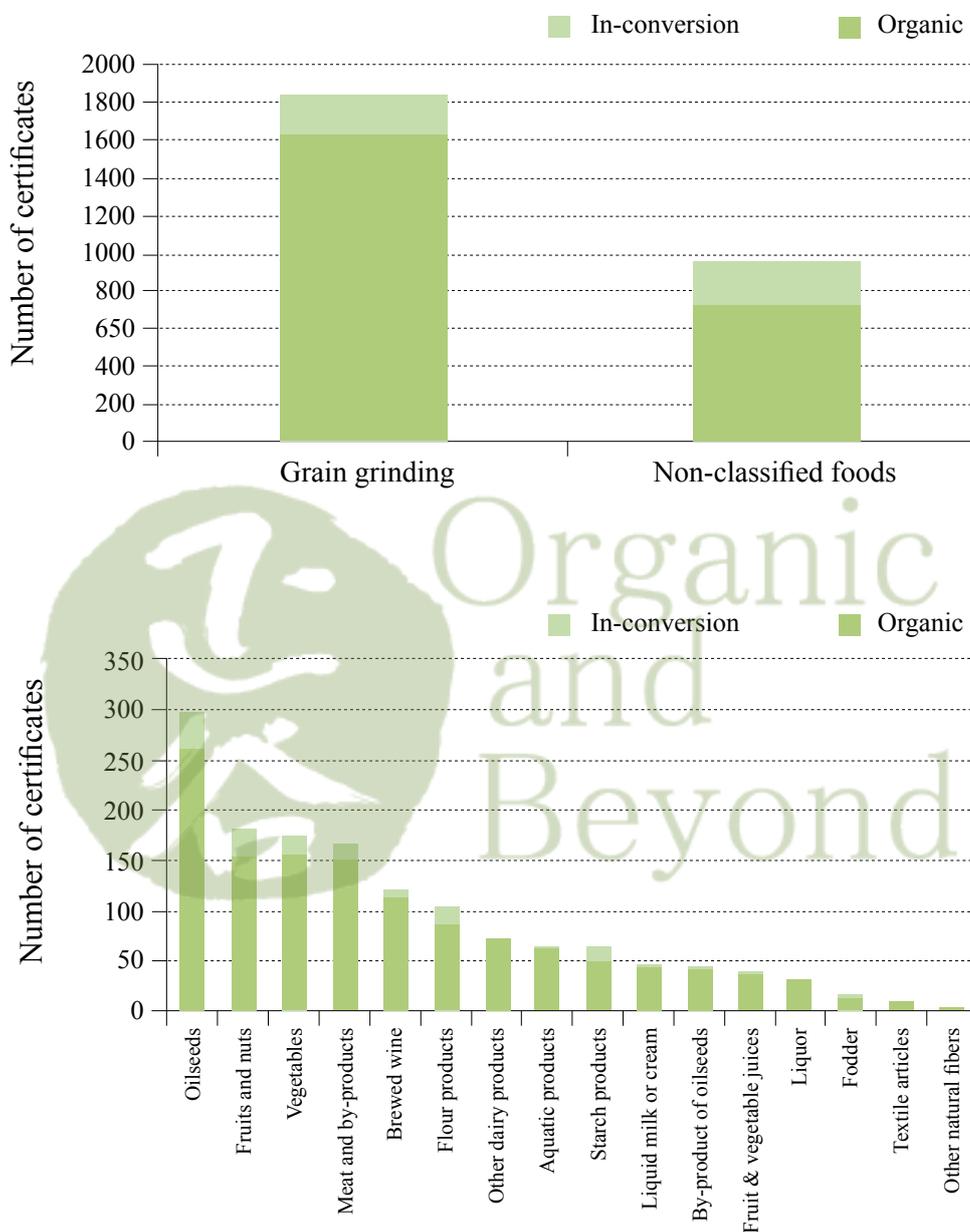


Figure 23: The certificate-issuing situation of China's organic processed products in 2015

The total yield of China's organic processed product in 2015 stood at 2.593 million tons. Among the processed products, the yield of cereal grinding products (mainly rice (flour) and wheat flour) was the highest as 846 thousand tons, accounting for 40% of the total organic processed products; processed liquid milk or cream ranked No. 2 with 580 thousand tons, accounting for 22%; starch and starch product ranked No. 3 with up to 240 thousand tons, accounting for 10%, and the sum of the above 3 products accounted for 63% of the total organic processed products. Among these processed products, the products under the conversion period of the cereal grinding product accounted for 2.7%, that of the processed liquid milk or cream and that of the processed fodder both

accounted for less than 1%, and that of the processed and preserved fruit and nut accounted for the highest proportion, up to 10% (Figure 24).

The respective yield of cereal flour product such as noodle, by-product of vegetable oil processing, liquor, fermented wine such as wine and fruit wine, vegetable oil processed product, aquatic products processed product, non-classified foods, processed or preserved vegetable, other dairy products and processed and preserved fruit and nut stood at 30 thousand to 100 thousand tons, accounting for 2% -5% respectively. The respective yield of meat product and by-product processed product, fruit juice and vegetable juice, starch and starch product, natural fiber for spinning and textile finished product stood at less than 20 thousand tons, accounting for less than 2% respectively.

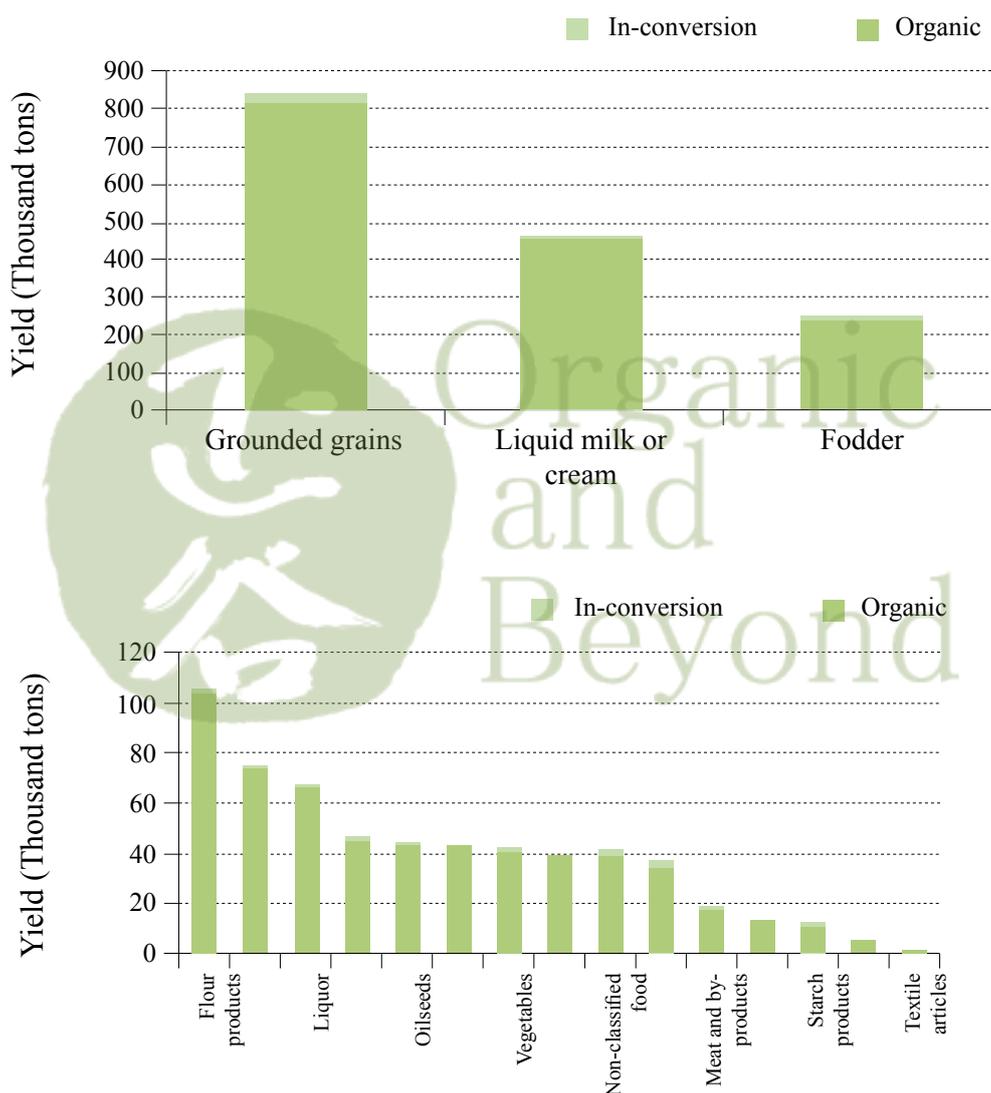


Figure 24: The production situation of China's organic processed products in 2015

Certification authorities and the number of certificates

In 2015, except Macao, there were 33 provinces, cities and autonomous regions in China engaged in organic processed product production. Organic processed products were mainly distributed in the northeastern and northern China as well as some western provinces such as Guizhou and Xinjiang. Seen from the overall distribution, the regional distribution of organic processed product matched that of crop production. Ranked by the yield of organic processed products, the top five provinces, cities and autonomous regions were Inner Mongolia, Heilongjiang, Guizhou, Liaoning and Hebei,

the sum of the five provinces, cities and autonomous regions stood at 1.66 million tons, accounting for 78% of the total yield. Inner Mongolia boasted the highest yield of 740 thousand tons, and the processed liquid milk and cream was 420 thousand tons and processed fodder was 210 thousand tons. Heilongjiang Province ranked No. 2 with 310 thousand tons, mainly covering rice flour, corn flour and vegetable oil processing (the yield of rice flour was 160 thousand tons). Guizhou ranked No. 3 with 300 thousand tons, mainly covering wheat flour, convenient food and liquor processing.

Development trend

The Figure 25 shows the changing trend of the yield of China's organic processed product from 2009 to 2015, and the yield of organic processed products was basically in the range of 2 million to 5 million tons. Compared with 2014, the yield of organic processed products decreased by 150 thousand tons (7%) in 2015 mainly because the yield of cereal grinding product decreased by about 100 thousand tons in 2015 and that of the processed fodder, by-product of vegetable oil processing, vegetable oil processed product and aquatic product processed product and other organic processed products all decreased slightly by less than 10 thousand tons respectively. Compared with 2014, the yield of processed liquid milk or cream, cereal flour products such as noodle, liquor and textile finished product all increased slightly by less than 10 thousand tons respectively in 2015.

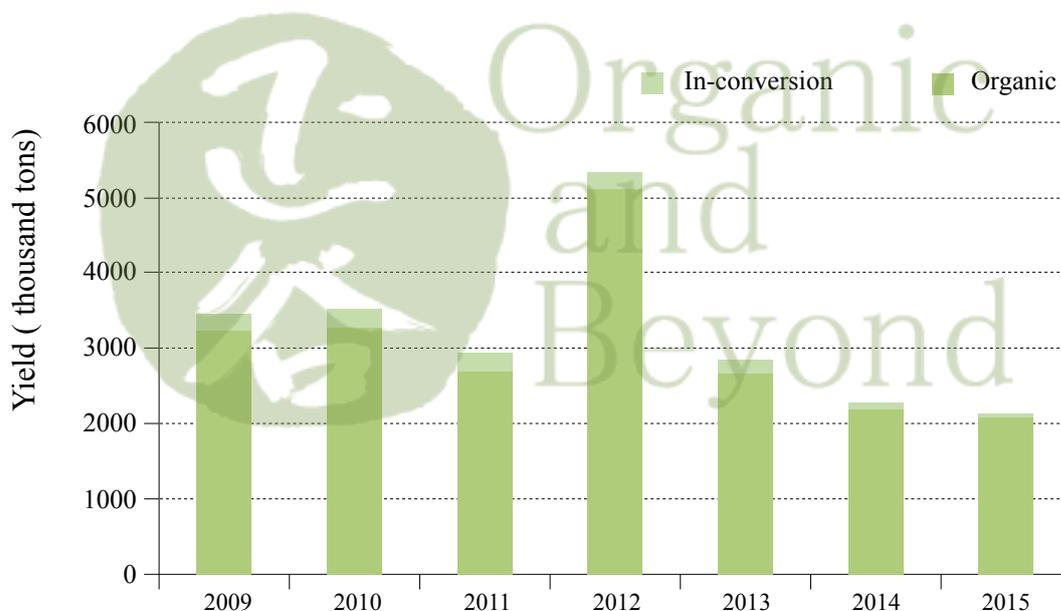


Figure 25: The changing trend of the yield of China's organic processed products 2009-2015

Production of China imported organic products

China imported organic products refer to the imported organic products that are produced and certified conformed with China's organic product standards overseas. As China's market demand for organic products continues to increase, more and more foreign companies want to export their organic products to China, and the areas of oversea certification for China's organic products is also expanding. In 2015, a total of 10 certification bodies conducted organic certification in 27 foreign countries. Figure 26 shows the top ten countries by the quantity of certified enterprises and the quantity of issued certificates. Italy ranks No. 1 by the quantity of issued certificates, followed by Denmark and Australia. Ranking by the quantity of certified enterprises, Italy, Australia and Spain are the top three.

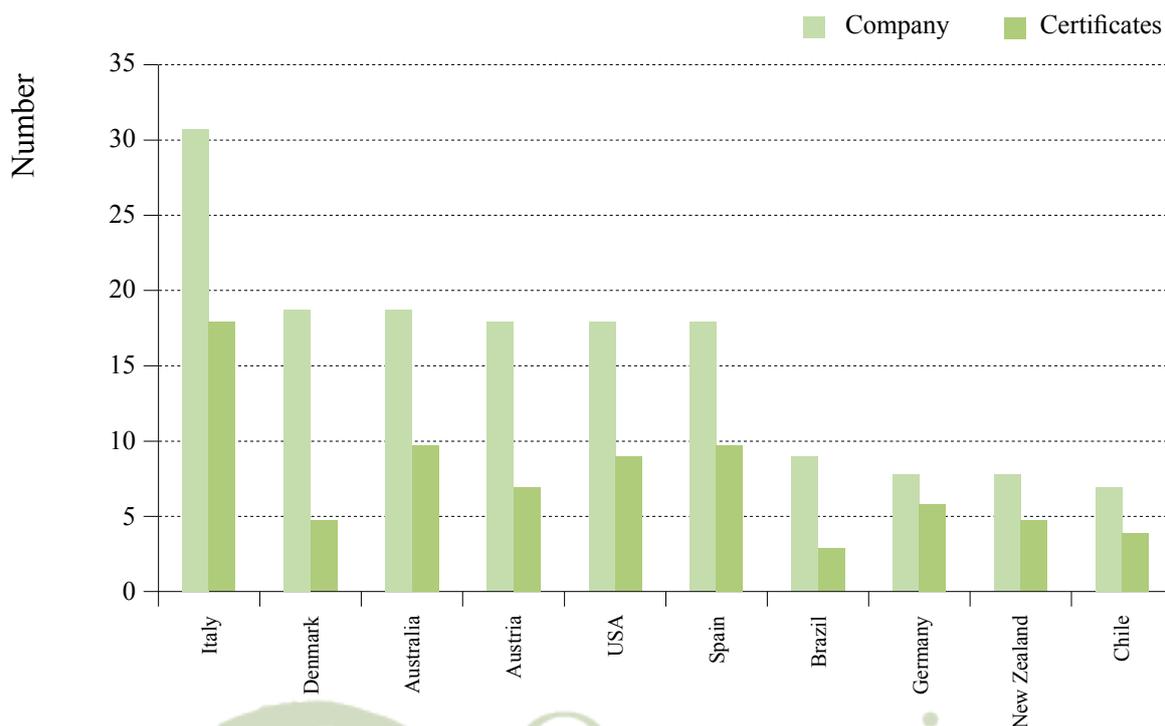


Figure 26: Distribution of companies certified and certificates issued overseas in 2015

The total certified area of China's organic products located overseas was 327 thousand hectares (including the area of pastures). Turkey (pomegranate is the certified product in the country) ranked No. 1 with 181 thousand hectares, accounting for 55% of the total, followed by Denmark with 54 thousand hectares, accounting for 17 %; Brazil 40 thousand hectares (sugar cane production), Australia 35 thousand hectares and the United Kingdom 4,000 hectares (Figure 27). The certified planting area of organic products in 18 countries including Indonesia, Italy, Spain and the United States totaled 13 thousand hectares. Paraguay, Switzerland, Malaysia and Tunisia had only processed products and no certified primary agricultural products.

The yield of overseas certified products totaled 4.27 million tons in 2015. And the certified yield of Brazil (mainly organic sugar cane production) was 3.18 million tons, accounting for 75% of the total, followed by Denmark (mainly dairy products) with 480 thousand tons, accounting for 15%. Italy, Turkey and India ranked from No. 3 to No. 5. The total yield of the five countries accounted for 93% of the total (Figure 27).

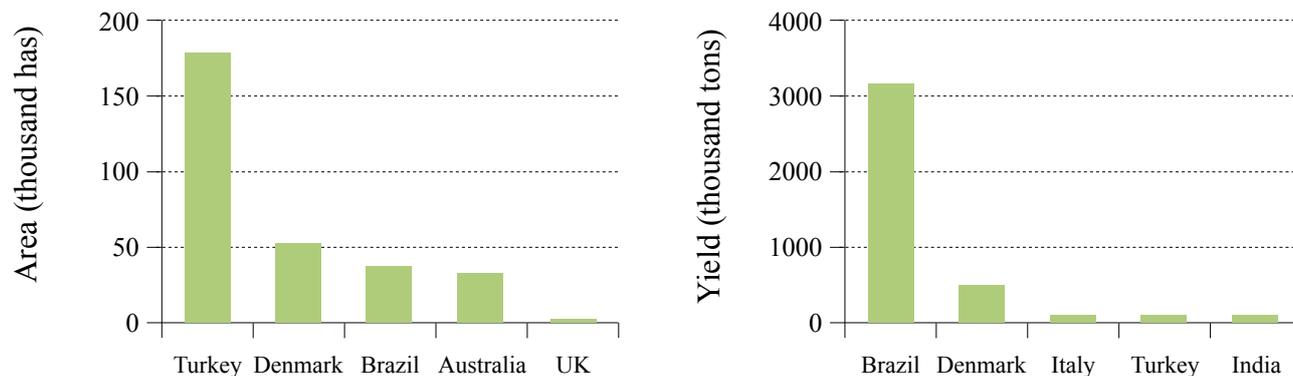


Figure 27: Top 5 countries by certified area and yield overseas in 2015

Status of China's Organic Industry Production in 2015

The certified organic planting area overseas of China's organic products was 214 thousand hectares, including 188 thousand hectares for fruit production and 21 thousand hectares for sugar-making plant cultivation. A total of 62 varieties of organic products were certified overseas, increasing by 12 when compared with 2014, and 31 of the total belonged to processed products. The total yield of organic products produced outside China was 2.83 million tons, and the production of sugar-making plants was 1.637 million tons, accounting for 58% of the total, and 428 thousand tons were processed products, mainly wine, vegetable oil and flavoring. The total yield of organic animal products was 560 thousand tons, and the milk production accounted for 98.7% of the total and beef cattle production 1% (Table 8 and Table 9).

Table 8: Production of oversea organic plant products in 2015

Product	Cereals	Cereals	Fruits	Sugar-making Plants	Tea	Other Oil Crops	Green Feed Crops	Spice Crops Products
Area (ha)	3,768	318	188,214	20,825	12	202	875	4
Yield (ton)	10,777	10,666	164,838	1,637,595	79	724	13,077	27

Table 9: Production of Oversea Organic Animal Products in 2015

Product	Shrimps	Beef Cattle	Dairy cattle	Milk	Processed Products
Yield (ton)	59	1,320	5,649	554,757	428,127

Production of China exported organic products

Table 10: Organic crops products certified in accordance with foreign standards in 2015

Variety	Area (thousand ha)	Yield (thousand tons)
Cereals	75	2,277
Vegetables	41	388
Fruits and nuts	78	179
Beans and other oil crops	268	1,614
Other plants	238	522
Total	700	4,979

The analysis data used in this section are provided by French ECOCERT, German BCS, German CERES, Japanese JONA, the Brazilian IBD, Italian BAC, Australian ACO and other foreign certification bodies. The data cover the information on the variety, trade volume, trade value and destinations of the agricultural products exported in 2015. The exported organic products are produced and traded according to the foreign standards (of the European Union, the United States, Japan, Australia, etc.).

In 2015, the plant products certified in accordance with foreign standards included cereals,

vegetables, fruits, nuts and so on. The total certified area was 700 thousand hectares, including organic certification area of 686 thousand hectares (98%) and organic conversion certification area of 14 thousand hectares (2%). The total certified yield hit 4.98 million tons. Among all crops planted, the planting area of beans and other oil crops was the highest and hit 268 thousand hectares, followed by other plants with 238 thousand hectares and fruits and nuts with 78 thousand hectares. The planted area of vegetable products was 41 thousand hectares (46%). Seen from the yield, cereals ranked No. 1 with 2.277 million tons (46%), followed by beans and other oil crops with 1.614 million tons (32%) and other plants with 522 thousand tons (10%) (Table 10).

In 2015, livestock and poultry and aquatic products certified in accordance with foreign organic standards accounted for small proportions. Livestock and poultry products were mainly milk, and aquatic products mainly aquatic plant products. In the year, the total yield of livestock and poultry products certified in accordance with foreign organic standards hit 505 thousand tons. Among the animal by-products, the yield of cow milk stood at 481 thousand tons, accounting for 95% of the total yield of certified organic livestock and poultry products, followed by live animals with 24 thousand tons, accounting for 4.6% of the total. The total yield of aquatic certified in accordance with foreign organic standards hit 1,448 tons in 2015, and that of crustaceans and invertebrates hit 205 tons, accounting for 14% of the total, and that of aquatic plants 1,243 tons, 86% of the total.

In 2015, China applied foreign organic certifications for a total of 16 varieties of processed products, including cereal grinding, processed feed, and vegetable oil processed by-products (Table 11). The total yield of processed products was 2.37 million tons, including 2.367 million tons subject to organic certification, accounting for 99.99% of the total and only 400 tons subject to conversion certification. The yield of processed feed was the highest and stood at 1.187 million tons, accounting for 50% of the total yield of processed products, followed by vegetable oil processing by-products, processed or preserved vegetables, cereal flour products such as noodles and vegetable oil processing. The yield of these five varieties of products accounted for 92% of the total. The proportions of cereal grinding, processed and preserved fruits and nuts, fruit juice and vegetable juice, non-classified foods, starch and starch products were 1%-3% respectively. The proportions of meat products and by-products processing, fermented wine including wine and fruit wine, aquatic products processing, natural fibers for spinning, baked foods and liquor were all less than 1%.

Table 11: Processed products certified according to foreign standards in 2015

Processed Products	Yield (Thousand tons)	Processed Products	Yield (Thousand tons)
Processed feed	1187	Non-classified food	28
By-product of processed oilseeds	718	Starches and starch products	22
Processed or preserved vegetables	95	Meat and byproduct processing	7
Noodles and other grain & flour products	92	Wine, fruit wine and other brewed wine	1.1
Processed oilseeds	83	Processed aquatic products	1.1
Grounded cereals and grains	66	Natural fibers for textile	0.4
Processed and preserved fruits and nuts	36	Baked foods	0.2
Fruit & vegetable juices	31	Liquor	0.1

Position of China's organic industry in the world

Analysis on comparison with the global organic product development

FiBL and IFOAM conducted investigative statistics on the organic agriculture data of 172 countries (170 countries in 2013) (FiBL & IFOAM, 2016). According to the statistics, by the end of 2014, the area of agricultural land managed by organic means was 43.7 million hectares (including land in conversion period), an increase of 600 thousand hectares over the 2013. Australia (17.2 million hectares), Argentina (3.1 million hectares) and the United States (2.2 million hectares) ranked top three. China's planting area of organic products was 1.9 million hectares, ranking No. 4.

Through a comparison between the production area of major organic products in China and that of the global organic products in 2014, we can see that (Table 2-11), the planting areas of organic cereals, vegetables and beans and oil crops in China accounted for 10% of the global total and that of organic tea production accounted for about 65%. Foreign countries had a large area of green fodder, cocoa, coffee and other organic crops, and China had a relatively small production area on these crops or had no production of some of them. Therefore, generally, the planting area of the organic crops produced according to China's organic product standards only accounted for 4.9% of the world's total.

Table 12: Proportions of major organic products in the global totals

Product Variety	China (2014) (Thousand ha)	Global (2014) (Thousand ha)	Proportion in the Global Total (%)
Cereals	566	3,400	16.6
Vegetables	29	290	10.0
Fruits and dried fruits	136	1,515	8.9
Beans and oil crops	231	1,000	23.1
Tea	46	71	64.8
Green fodder	85	2,600	3.3
Other plants	31	469	6.6
Total of planted crops	1,124	37,500	3.0
Total	2248	45738	4.9

In terms of wild collection, in 2014, China's wild collection area was 822 thousand hectares and only accounted for about 3% of the global total. However, China has a vast land, and wild collection still has great potential for development according to the needs of the organic market.

Analysis on potential development of China's organic products

Potential development of different organic products

On the global scale, according to the proportion of organic planting area to total agricultural plant area, the organic products account for an average of 1.0% of conventional agricultural production (FiBL & IFOAM, 2016). The proportion is only 0.83% in China, lower than the global level and

Asia's average is 0.3%. The proportion is highest in Oceania and reaches 4.1%, followed by Europe (2.4%). Around the world, there are 11 countries with the proportion exceeding 10%, and another 15 countries with proportion between 5% and 10%, 80% of which are European countries.

On the global scale, organic cereals account for an average of 0.5% of conventional cereal production, and the proportion is 0.6% in China, slightly higher than the global average. In Austria, the proportion of organic cereals in conventional cereals planting area reaches 12% (Table 13). In addition, in Bolivia, Estonia, Greece, Italy, Latvia, Lithuania and Sweden, the proportion is over 5%. It can be seen that there is a big gap between China and these countries in this aspect. However, due to the vast area and better agricultural base in China, the production of organic cereals in China still has certain development potential.

The global average percentage of organic vegetable production is only 0.5%, and the percentage is lower in China, only 0.1%. The planting area of organic vegetables in Denmark accounts for 25.3% of that of conventional vegetables, followed by Austria (21.3%) and Poland (19.8%). China is a country with large vegetable production and demand, and the production area and yield account for half of the global vegetable production. Although, there are some difficulties in converting the conventional vegetable production technology into organic production, with increasing investment in production technology, China's production of organic vegetables still has great potential. With the rise of China's domestic market, this demand will be higher and higher.

The production of organic fruits and dried fruits has a relatively high proportion in conventional production. It is 1.2% in China, lower than the global average of 3.7%. The production area of organic citrus and fruits in Burkina Faso (Africa) accounts for 32.9% of conventional production area, but the percentage in China is only 0.3%. In the UK, organic grape production area accounts for 20.4% of conventional production area. Moreover, the proportion of organic grape production is more than 10% in Austria, Italy and Mexico, but it is only 3.2% in China. All these indicate that China still has a very big potential for the development of organic fruits, which also needs the appropriate technology as the support.

Table 13: Proportion of China's major organic products in conventional products and global organic products (%)

Product Variety	China		Global	
	2013	2014	2013	2014
Cereals	0.5	0.6	0.4	0.5
Vegetables	0.2	0.1	0.4	0.5
Fruit and dried fruits	1.2	1.6	3.7	3.8
Beans and oil crops	1.5	1.1	0.4	0.5
Tea	2.9	1.7	3.3	1.9

In China, the proportion of the planting area of organic beans and oil crops to that of conventional beans and oil crop production is 1.1%, significantly higher than the global average of 0.5%. This is related to the natural conditions of China's soybean production areas. The proportion is 20.2% in Peru and exceeds 10% in Austria, Togo and Salvador. This indicates that China still has a great potential for the improvement in organic beans and oil crops production.

Organic tea is a dominant product among organic products in China and boasts a proportion of 1.7% in conventional production, which is significantly higher than that of other crops but lower than the global average of 1.9%. In China, most of tea production areas are mountainous ones, and the geographical location and climatic conditions benefit the organic tea production. Therefore, there is a very big potential for development according to the market demand. Compared with the 2013 data, there was a quite difference, which was mainly because that the production area of organic tea reduced by 7,000 hectares from 2013 to 2014, but that of conventional tea increased by 181 thousand hectares. At the same time, the planting area of organic tea increased by 8,000 hectares from 2013 to 2014 but that of conventional tea increased by 149 thousand hectares around the world.

Potential for development of organic industries in different provinces

China's organic production areas vary in different provinces, which are highly related to local climate conditions and the development of agricultural production. It can be seen from Table 2-13 that the planting area of organic products in Beijing is only 20 thousand hectares but accounts for 7.59% of the city's cultivated area, which ranks No. 1 in China and No. 19 in the world (2014). Liaoning, Guizhou, Xinjiang and Heilongjiang become the national top four by the planting area of organic products; the proportion of the planting area of organic products is also quite high for them, approaching or exceeding 2%. The proportion falls into the range of 0.5-1% for 6 provinces, namely Inner Mongolia Autonomous Region, Shanghai, Tianjin, Zhejiang, Shanxi and Ningxia Hui Autonomous Region. The proportion is less than 0.5% for 19 provinces. The area of organic production accounts for 0.77% of the national agricultural arable land in China, and the proportions of 8 provinces are above the national average.

Table 14: Proportions of production area of organic products in cultivated area of different provinces in 2015

Province	Provinces	0.5-1%	Provinces	0.2-0.5%	Provinces	<0.2%
Beijing	Inner Mongolia	0.96	Shanxi	0.43	Jiangxi	0.19
Liaoning	Shanghai	0.88	Jilin	0.42	Shandong	0.18
Guizhou	Tianjin	0.76	Hebei	0.39	Guangxi	0.16
Heilongjiang	Zhejiang	0.59	Tibet	0.37	Yunnan	0.16
Qinghai	Shanxi	0.58	Fujian	0.33	Anhui	0.16
Xinjiang	Ningxia	0.51	Guangdong	0.31	Hubei	0.15
			Sichuan	0.26	Henan	0.12
			Chongqing	0.23	Gansu	0.12
					Jiangsu	0.07
					Hainan	0.03
					Hunan	0.02
					Taiwanese	

Potential for development of China exported organic products

Despite the slowdown in global economic growth, the sales of international organic products continue to grow. "Organic Monitor" estimated that the sales of organic food (including beverages) reached US \$80 billion in 2014. Compared with that of 2004, the market size expanded about 179%, and compared that of 2009, the market size expanded about 46%. This shows that the global organic products market is developing rapidly. The demand for organic products is mainly concentrated in North America and Europe. The two regions have a market demand accounting for 89% of the global total, however, the organic production area in Europe and America accounts for only one-third of the world's total. Asia's organic market accounts for 8%, in third place. The organic foods produced in some regions, especially Asia, Latin America and Africa, are mainly used for export.

Seen from the national level, the United States is the world's largest consumer of organic foods and accounts for 43% of the world's total, followed by Germany and France, 13% and 8 % respectively. China ranks No. 4 and accounts for 6%. For most developed countries, due to restrictions of land area and climatic conditions or production costs, a large part of consumed organic foods are imported from developing countries. For instance, each year, the UK imports considerable amount of organic foods from 9 developing countries including Brazil, India, China and Mexico.

Seen from the export of organic products over the years, bean products and oil crops are exported the most and stand at about 100 thousand tons per year, accounting for 43.8% -62.7% of the total trade volume. The trade value hits about US \$70 million. Followed by vegetable oil processed by-products, processed and preserved vegetables and cereals and other bulk agricultural products, and their export volumes are all above 10,000 tons; The export volumes of processed feed, cereal grinding products, processed and preserved fruits and nuts, vegetables, fruits and nuts, fruit juice and vegetable juice, botanical herbs and processed feed are only between 1,000 tons and 9,000 tons respectively. The export volumes of animal products, textiles, aquatic products and starch products are relatively small, all less than 1,000 tons.

Based on the above analysis, currently, the proportion of organic products in the conventional products is relatively low in China, and the domestic market and the export market both have certain room for development. Although there are many challenges in the future, the global organic food industry has encouraging prospects.

Trade and Consumption of Organic Products in China

Domestic output value and trade estimation of organic products

Domestic output value of organic products

In 2006, CNCA began to operate Chinese Food and Agricultural Product Certification Information System. Certified enterprises need to report the yield and output value of certified organic products (the estimated value based on full sales of certified organic products) to organic certification bodies and then such certifications would report them to the Information System. The output values are estimated based on the enterprises' production situation and reported to the Food and Agricultural Product Certification Information System. According to statistics, the output value of various types of organic products totaled RMB 129.9 billion in 2015. The output value of processed products was RMB 86.7 billion, and that of processed liquid milk and cream reached as high as RMB 23.4 billion (mainly liquid milk). The output value of processed products accounted for 66.8% of the total output value of organic products; the output value of cereals was RMB 9.5 billion and accounted for 7.3%, and it was followed by that of fruits and nuts with RMB 8.6 billion, accounted for 6.6%. The output value of these three categories of products accounted for 81.0% of the total output value (Table 15).

Table 15: Output values and proportions of various organic products in 2015

Organic Product	Output Value (RMB billion)	Proportion (%)	Organic Product	Output Value (RMB billion)	Proportion (%)
Cereals	9.5	7.3	Green fodder	0.9	0.7
Fruits and nuts	8.6	6.6	Other plants	3.1	2.4
Vegetables	6.1	4.7	Livestock and poultry	4.2	3.2
Soybean and other oil crops	2.1	1.7	Animal products	2.9	2.2
Wild collection	0.6	0.5	Aquatic products	3.5	2.7
Tea	1.7	1.3	Processed products	86.7	67.1
Total		129.9			100.0

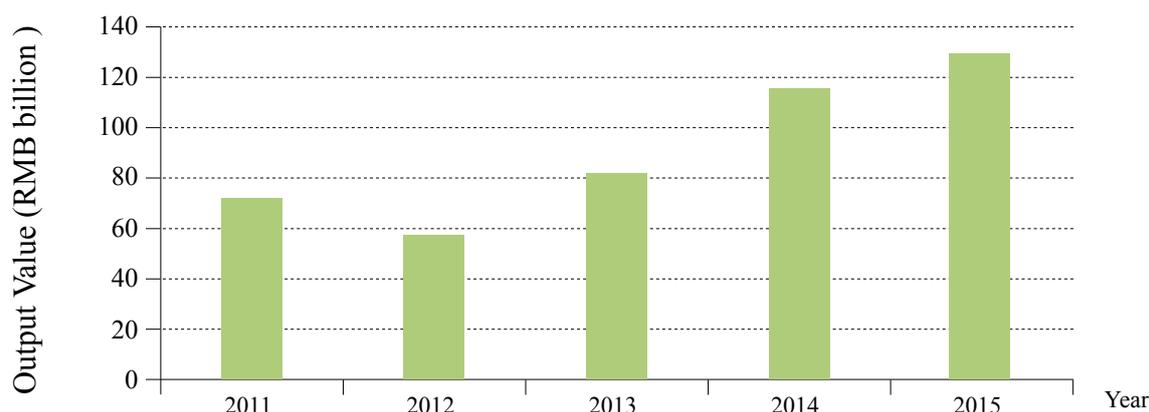


Figure 28: Change trend in output value of organic products during 2011-2015

Figure 28 showed the total output value of organic products for the five consecutive years from 2011 to 2015, respectively RMB 72.8 billion, RMB 57.9 billion, RMB 81.6 billion, RMB 116.4 billion and RMB 129.9 billion. It can be seen from the figure that, in recent years, with the increase of production area and product variety of organic products, the output value of organic products has been increasing. Except the slight decrease in 2012, the output value of organic products showed an increasing trend in 2013, 2014 and 2015 respectively.

Organic product label filing in China

In 2012, China established the 17-digital organic code management system based on the principle of “One Product One Code”. The certified product itself or the minimum sales unit must have organic anti-fake traceable label or printed organic code. When applying for organic label or organic code, enterprises must specify the names and yield of the products sold and report to the Chinese Food and Agricultural Product Certification Information System through the certification bodies. The relevant data for the analysis on output value of organic products in this part also come from the Information System.

In 2015, 1.504 billion pieces of organic labels were filed, including 1.009 billion labels for sterilized milk, accounted for 67%. As shown in Figure 29, the top ten products (except sterilized milk) by the number of organic labels filed in 2015 were yogurt (139.5 million labels), liquor (total 60.1 million labels, including 47.0 million for Guizhou Moutai), rice (24.9 million labels), preserved vegetables (15.8 million labels), red wine (13.7 million labels), milk powder (13.0 million labels), cereal products (8.4 million labels), rice flour (8.3 million labels), oats (8.1 million labels) and sporoderm-broken spore powder of ganoderma lucidum (7.5 million labels). The quantity of the organic labels used by the ten categories of products mentioned above and sterilized milk accounted for 87% of the filed organic labels.

Among the 21 organic certification bodies that have issued organic product labels (including organic codes), COFCC, OFDC, Hangzhou WIT, CQC and FOFCC ranked top five by the number of filed organic product labels (Figure 30). COFCC had a share of 55.4% in the total number of filed organic product labels, OFDC 28.6%, Hangzhou WIT 4.9%, CQC 2.5% and FOFCC 1.9%. The total number of filed organic product labels issued by the five certification bodies accounted for 92.8% of the national total. According to market shares, types of product used organic codes and packaging specifications, the number of organic codes used by Moutai, Mengniu, Shengmu and Yili was far beyond other brands.

By region, except Hong Kong and Macao, the remaining 32 provinces, cities and autonomous

regions all had organic label on file. Inner Mongolia had the largest number of organic labels (1,056 billion), followed by Guizhou (48 million labels), Tianjin (42 million labels) and Heilongjiang (40 million labels). The provinces with more than 10 million labels also included Hebei, Shandong and other 9 provinces; the regions with 1-10 million labels included Jilin Province, Jiangsu Province and other 11 provinces, cities and autonomous regions; the number of organic labels filed was less than 1 million respectively in Hainan, Tibet and Taiwan.

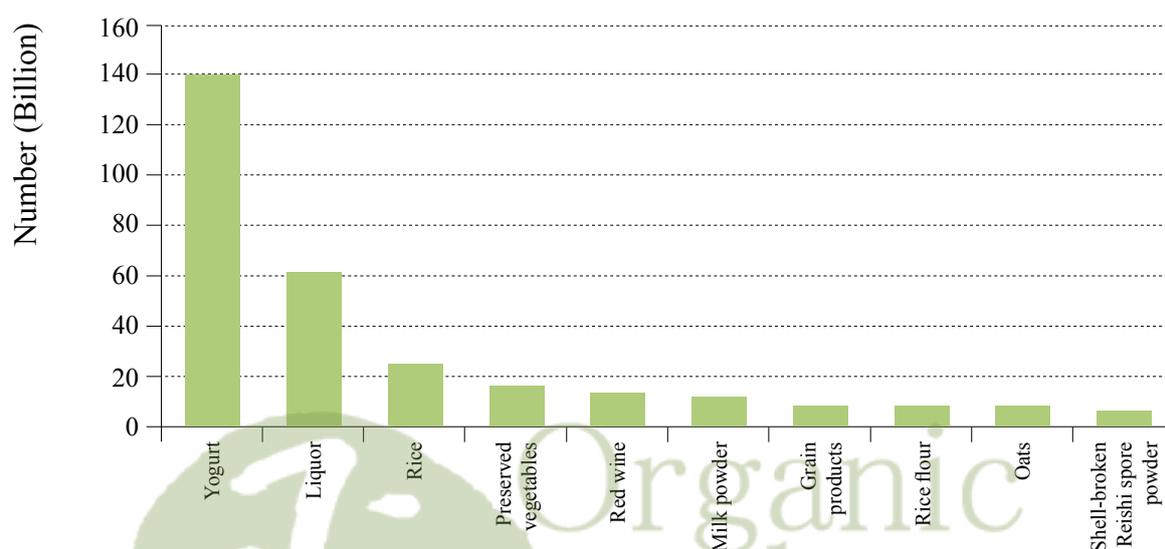


Figure 29: The top ten products ranked by the number of organic label registration in 2015 (Except sterilized milk)

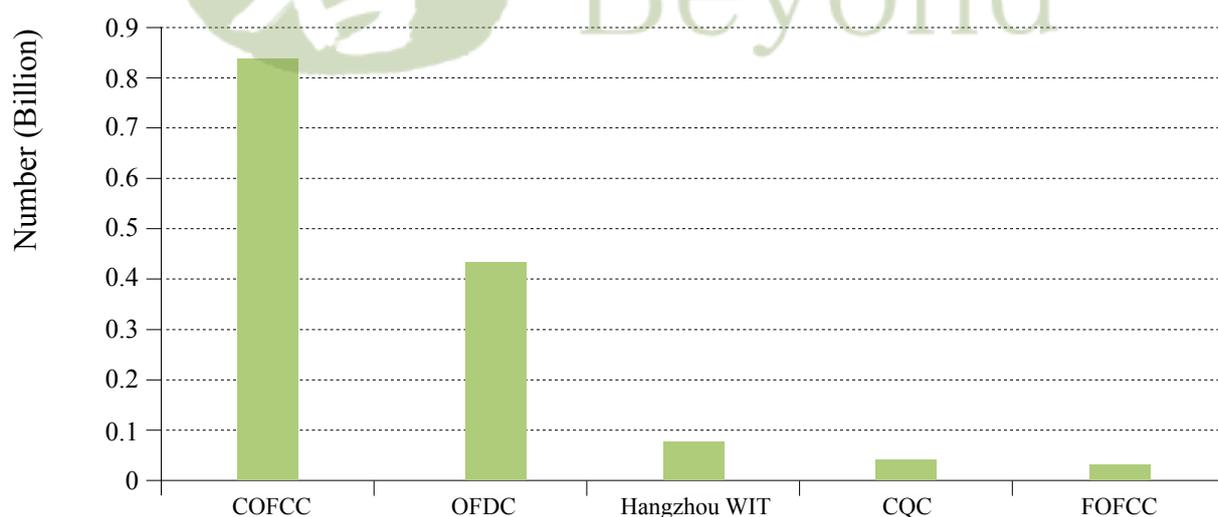


Figure 30: The top five certification authorities in China ranked by the number in registering organic labels in 2015

From 2012 to 2015, the number of organic labels filed showed a significant increasing trend. In 2013, it increased by 89.8% compared with 2012; in 2014, it increased by 29.4% compared with 2013; in 2015, it increased by 42.4% compared with 2014 (Figure 31).

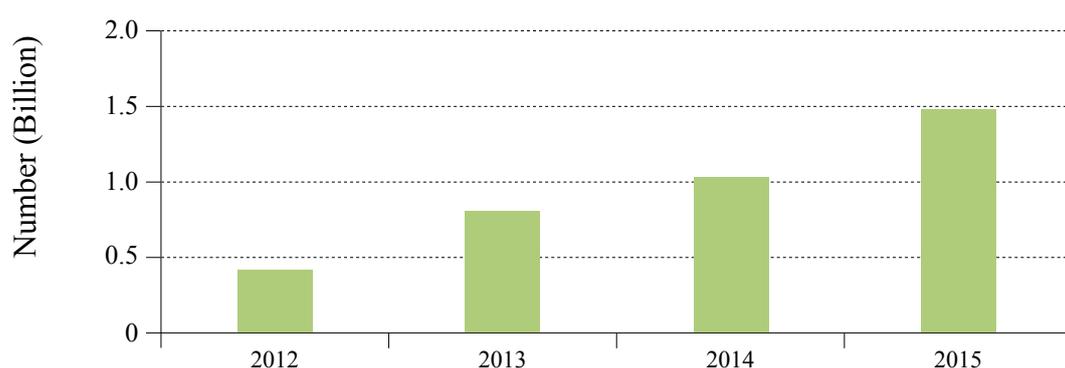


Figure 31: Changing trend of the number of organic labels filed 2012-2015

Domestic verified sales volume of organic products

The verified sales volume described in this section refers to the quantity of the products with organic labels (organic codes) issuance filed and reported in the Chinese Food and Agricultural Product Certification Information System in 2015. Since the volume information is based on the weight of the products reported when enterprises apply organic labels (organic codes), the data are currently the only accurate data can be obtained for the annual sales of enterprises. In 2015, the total verified sales volume of organic products with labels was 548 thousand tons, including processed products 393 thousand tons, accounted for 71.7%, followed by plant products 139 thousand tons, aquatic products 5,000 tons and livestock and poultry products (including eggs, meat and by-products, excluding meat products) 3,000 tons.

Plant products

In 2015, the verified sales volume of the plant products with organic labels issued was 139 thousand tons, and cereals were 72 thousand tons and accounted for 53.2%, followed by plant feed, up to 33 thousand tons and accounted for 21.8%, fruits 16 thousand tons and vegetables 15 thousand tons, beans and other oil crops 2,000 tons, and remaining other plant products 17 thousand tons (Figure 32).

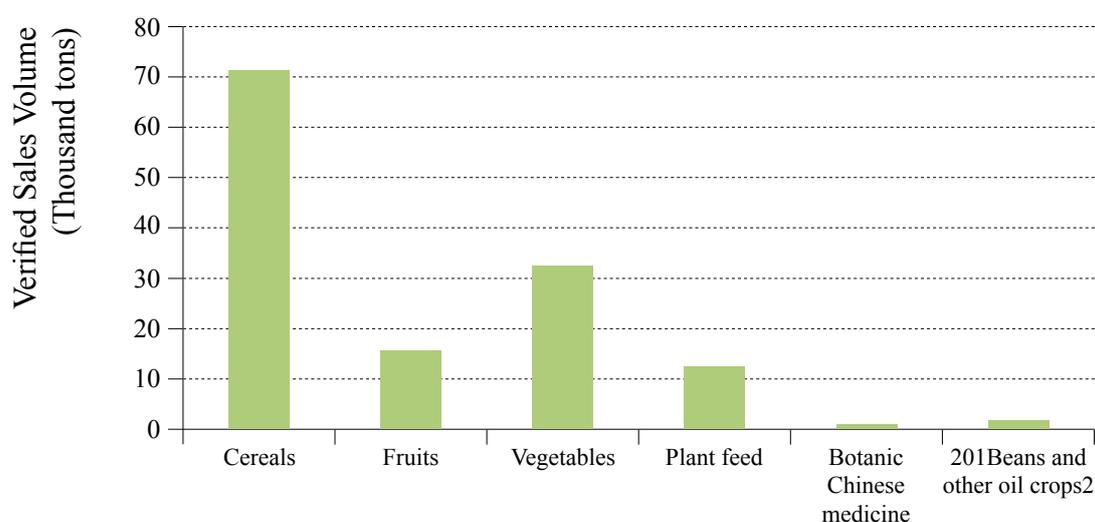


Figure 32: The verified yield of organic plant products with registered label in China in 2015

A total of 12 categories of vegetable products were on the market. The separate verified sales

volume of cucurbits, Chinese cabbages, root vegetables, green leafy vegetables, cabbages and eggplants was more than 1,000 tons. That of cucurbits reached 3,200 tons, ranking No. 1, followed by Chinese cabbages 2,500 tons and root vegetables 2,200 tons.

Livestock and poultry, animal products and aquatic products

In 2015, the verified sales volume of organic poultry eggs with organic labels issued reached 1,543 tons, including 1,531 tons of hen's eggs, 11.8 tons of duck eggs and 0.2 tons of goose eggs. The verified sales volume of organic livestock and poultry with organic labels issued was 2009 tons, including 1,387 tons of livestock and 622 tons of poultry. The verified sales volume of organic animal products with organic labels issued was 307 tons, all meat and its by-products. The verified sales volume of organic aquatic products with organic labels issued was 5,091 tons, and aquatic plants were 2093 tons, accounted for 41%, followed by fish 2,047 tons, accounted for 40.2%. The verified sales volumes of soft-shelled turtle, crab, shrimp, scallops and sea cucumbers with organic labels issued were relatively low, respectively 52 tons, 313 tons, 5 tons, 1.3 tons and 479 tons.

Processed products

In 2015, the verified sales volume of organic processed products with organic labels issued was 393 thousand tons. Processed liquid milk or cream ranked No. 1 and reached 299 thousand tons, accounted for 76.1%. In addition, the verified sales volume of 11 categories of products including liquor, cereals and grinded products, fermented wine including wine and fruit wine was over 10 thousand tons, and coupled with the processed liquid milk or cream, accounted for 97.5% of the total processed products (Figure 33).

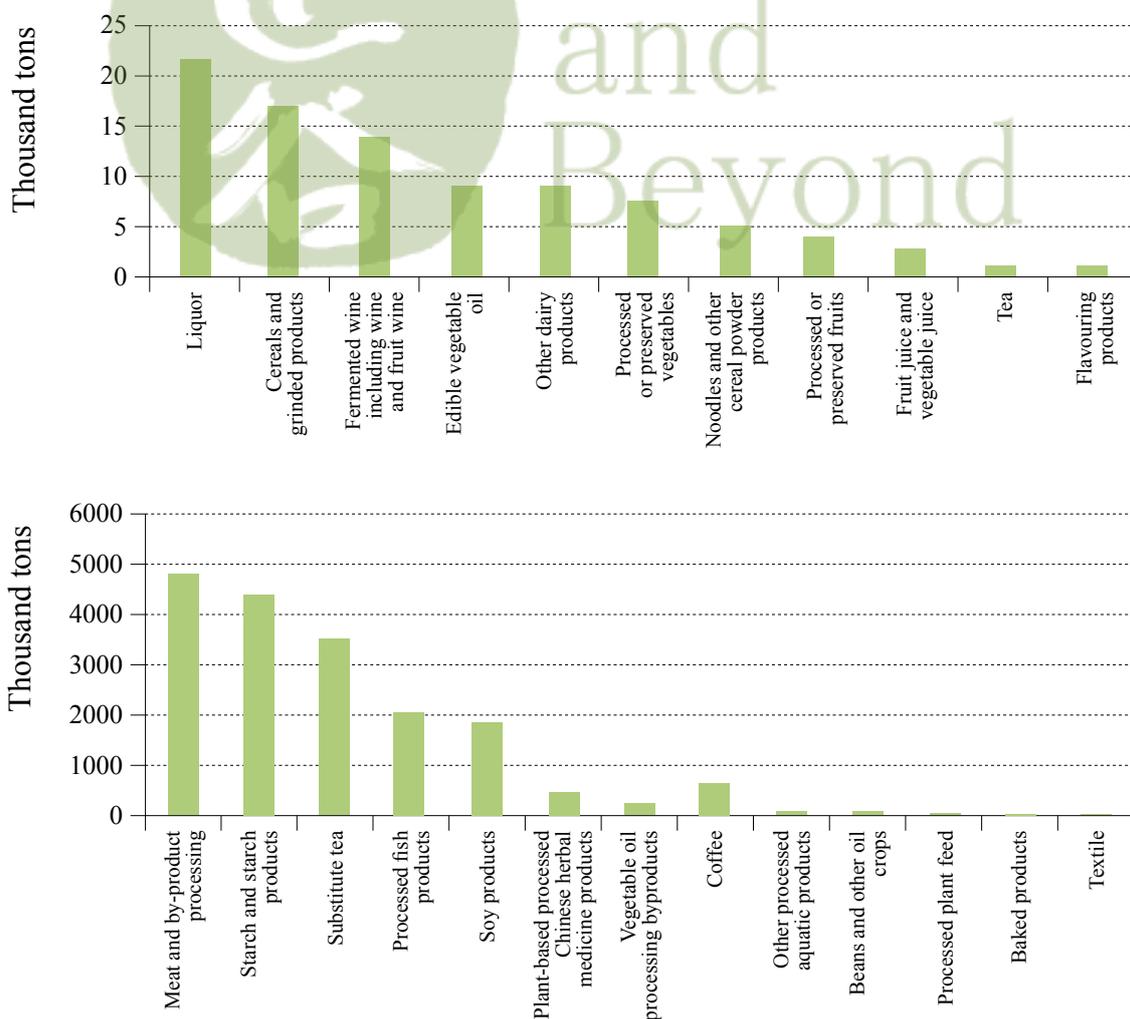
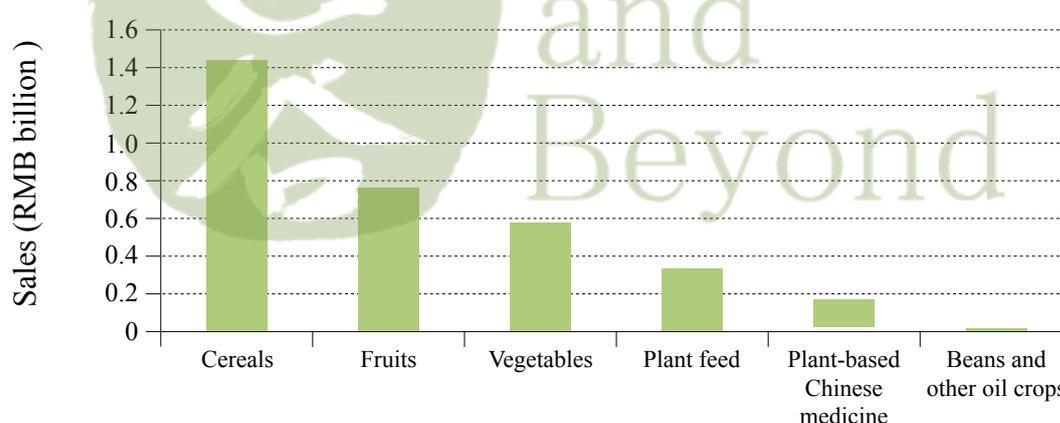


Figure 33: Verified sales volume of organic processed products with organic labels issued in 2015**Estimation of domestic sales of organic products**

The sales of organic products are estimated based on the verified sales volumes of the products with organic label issued and the current selling prices of the organic products. As the data are not from the sales end, especially the selling price of each product is not available and meanwhile, as the shelf life of most products except fresh products is over 12 months, even more than 5 years for liquor, the data in this part is for reference only. With the high proportions of liquor and dairy products among all types of products, the selling prices used for the estimate of these two types of products are basically the actual market prices. Without considering the shelf life, the accuracy and representations of overall data are ensured.

In 2015, the sales of organic products were RMB 60.143 billion, including RMB 55.98 billion from the sales of organic processed products, accounted for 93.1% of the total, RMB 3.393 billion from the sales of plant products, accounted for 5.6% of the total, and RMB 510 million and RMB 260 million respectively from the sales of aquatic products and livestock and poultry. The sales of organic plant products were RMB 3.393 billion, and the highest sales value of cereal products were RMB 1.45 billion, accounted for 42.7%, which was mainly due to the larger sales volume than other varieties. It was followed by fruits and vegetables, respectively RMB 743 million and RMB 587 million. The sales of plant feed ranked fourth and reached RMB 333 million, which also benefited from the big sales volume; Although the sales volume of plant-based Chinese medicine were much lower than the previous categories, it also entered the top 5 for high product value (Figure 34).

**Figure 34:** Sales value of organic crops in China 2015

In 2015, the sales of organic aquatic products reached RMB 510 million, including RMB 117 million of plant aquatic products. Because of the high value of scallops and sea cucumber, although their sales volume was less than fish, their sales value nearly doubled the sum of all freshwater fish and marine fish sold and reached RMB 240 million. In the year, 20 million pieces of *Eriocheir Sinensis* were sold, which was subject to seasonal sales and easily affected by logistics and weather. As for livestock and poultry products, the sale of chicken eggs was RMB 80 million and pork was RMB 10 million. Moreover, RMB 70 million of sheep, RMB 50 million of pigs and RMB 200 million of chicken were sold in whole form.

In 2005, the sales of organic processed products were RMB 55.98 billion, including RMB 33.22 billion from the sales of liquor, accounted for 59.3%, followed by processed liquid milk or cream (RMB 8.07 billion), other dairy products (RMB 4.65 billion) and fermented wine including wine and fruit wine (RMB 3.38 billion). The sum of products with sales value over RMB 100 million

accounted for 99% of the total sales of processed products. See Figure 34 for detailed information. Through an analysis on organic processed products in 2015, the increase in the overall sales of 2015 was mainly because of the increased sales volume of high-priced liquor. Excluding liquor, the sales of organic processed products in 2015 totaled RMB 22.76 billion (Figure 35).

The product varieties with sales between RMB 1 million to RMB 100 million include starch and starch products, fruit juices and vegetable juices, coffee and plant-based herbs processed products. The sales of beans and other oil crops, processed plant feed and vegetable oil processing by-products did not exceed RMB 1 million. This does not mean that these varieties of products are in less production but because they are basically sold as feed, only sales permit is needed in most cases instead of organic labels (Figure 36).

By comparing the 2014 data to those of 2015, it is found that the sales of many varieties experienced great ups and downs, indicating that the domestic market was still in its early stage. But, the generation of such data was also related to the accuracy level of the data that we process. The varieties with apparent growth included processed liquid milk or cream. The sales in 2014 was RMB 5.7 billion, and increased 40.4% in 2015. The sales of edible vegetable oil was RMB 0.9 billion, and increased 54.4% in 2015. Tea sales had a big decline by 35.5% in 2015 from RMB 2 billion in 2014. The sales of grinded cereal products declined 43.3% in 2015 from RMB 1.2 billion in 2014.

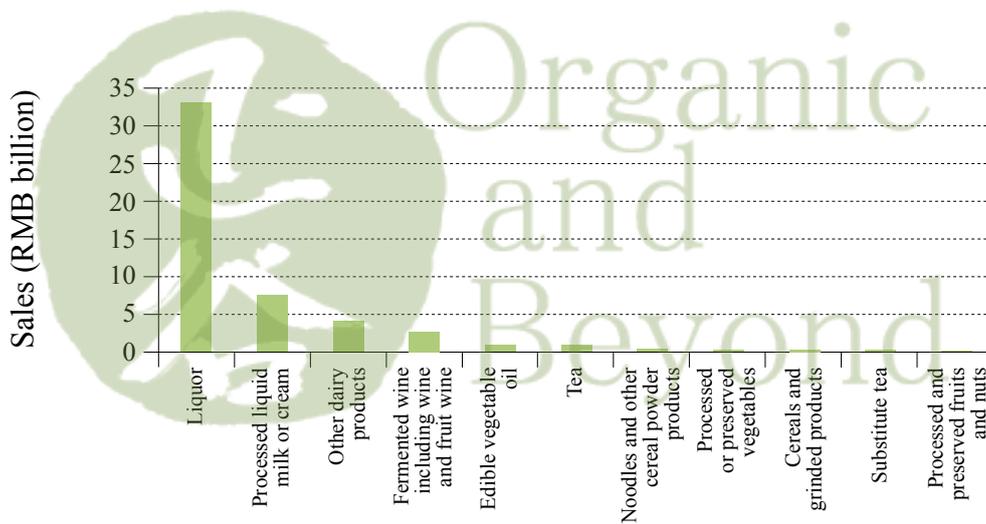


Figure 35: Sales of organic processed products in China 2015 (Variety with sales over RMB billion)

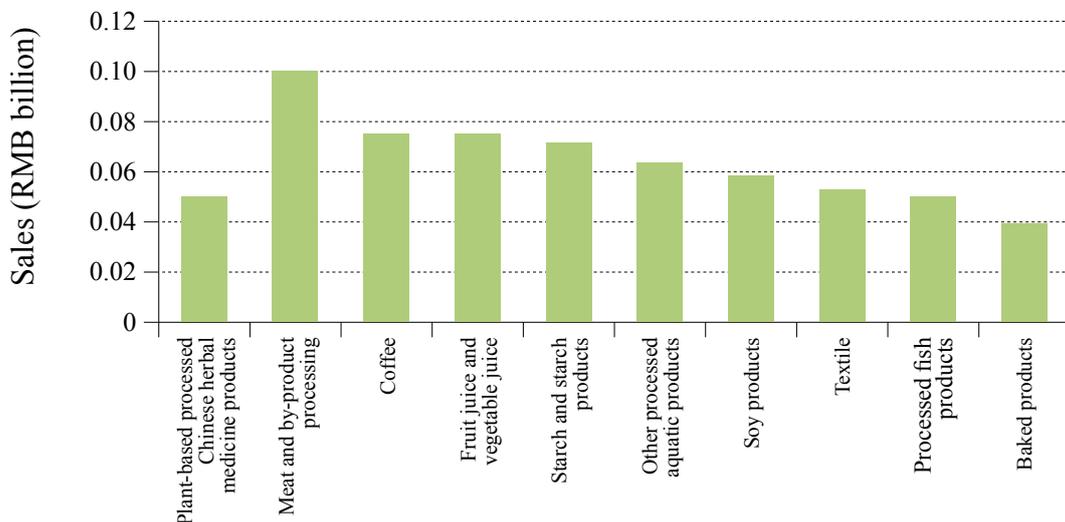


Figure 36: Sales of organic processed products in China 2015 (Variety with sales below RMB billion)

Export of organic products by China

Overview

According to the data reported by French ECOCERT, German CERES, German BCS, Japanese JONA and Brazilian IBD's China subcontractor, the export value of organic products in 2015 was US\$ 899 million, increased by 53.41% compared with 2014. The total trade volume was 659.9 thousand tons, increased by 128.63% compared with 2014. In the aspect of trade value, primary agricultural products generated the highest trade value, US\$ 617 million, accounted for 60.68% of the total trade value, followed by processed products US\$ 276 million (30.74%) and animal products US\$ 5.21 million (0.58%) (Table 16). In terms of trade volume, the trade volume of primary agricultural products ranked first and reached 390.09 thousand tons, accounted for 60.05% of the total trade volume, followed by processed products 259.1 thousand tons (39.81%) and animal products 875 tons (0.13%).

Table 16: Trade value and trade volume of organic products in 2015

Region	Primary Agricultural Products		Animal Products		Processed Products		Total	
	Trade Value (US million)	Trade Volume (T)	Trade Value (US million)	Trade Volume (T)	Trade Value (US million)	Trade Volume (T)	Trade Value (US million)	Trade Volume (T)
Europe	309.7	76186	4.96	678	84.76	94970	399.42	171835
North America	76.19	282088	0.25	197	144.09	152962	220.53	435247
Asia	193.38	10753	0	0	22.15	3702	215.54	14455
Australia	5.64	3861	0	0	0	0	5.64	3861
South America	1.92	658	0	0	0.43	162	2.35	820
HK-MC-TW	3.54	876	0	0	0.75	94	4.3	969
Africa	26.93	16476	0	0	24.14	7239	51.08	23716
Total	617.32	390898	5.21	875	276.33	259130	898.86	650903

Export destinations of organic products of China

During the export trade of organic products in 2015, the target countries and regions for the exports

of China's organic products had no significant change, but the trade volume and trade value changed significantly compared with 2014. China's largest export value of organic products was seen in Europe and reached US\$ 399 million, accounted for 43.73% of the total exports. But it decreased by 14.89% from US\$ 470 million in 2014, and its proportion also had a big decline from 80.29% in the previous year. The North American market generated the second largest export value of US\$ 220 million, increased by 247.66% compared with that of 2014. The proportion in total export value was also increased to 24.14% in 2015 from 10.83% in 2014. In Asian market, as a result of a substantial increase in trade with Japan, the proportion in the total export value was increased from 7.45% in 2014 to 25.19% in 2015. In more than 30 countries and regions for export, the Netherlands, the USA, Japan, Germany, the UK, Canada, Denmark, Italy, France and Belgium ranked the top ten by trade value. Compared with 2014, Austria ranked 11 and Belgium entered the top ten (Figure 37). The trade value with these countries reached RMB 796 million, accounted for 97.91% of the total. The ranking of trade volume was different from that of trade value. North America ranked first by 435.2 thousand tons, accounted for 65.07% of total trade volume, followed by Europe 171.8 thousand tons (25.69%) and Asia 32.5 thousand tons (4.86%). In terms of trade volume, the top ten countries are shown in Figure 37. The trade volume with the USA was far greater than the sum of all the remaining trades and accounted for 68.55% of the total.

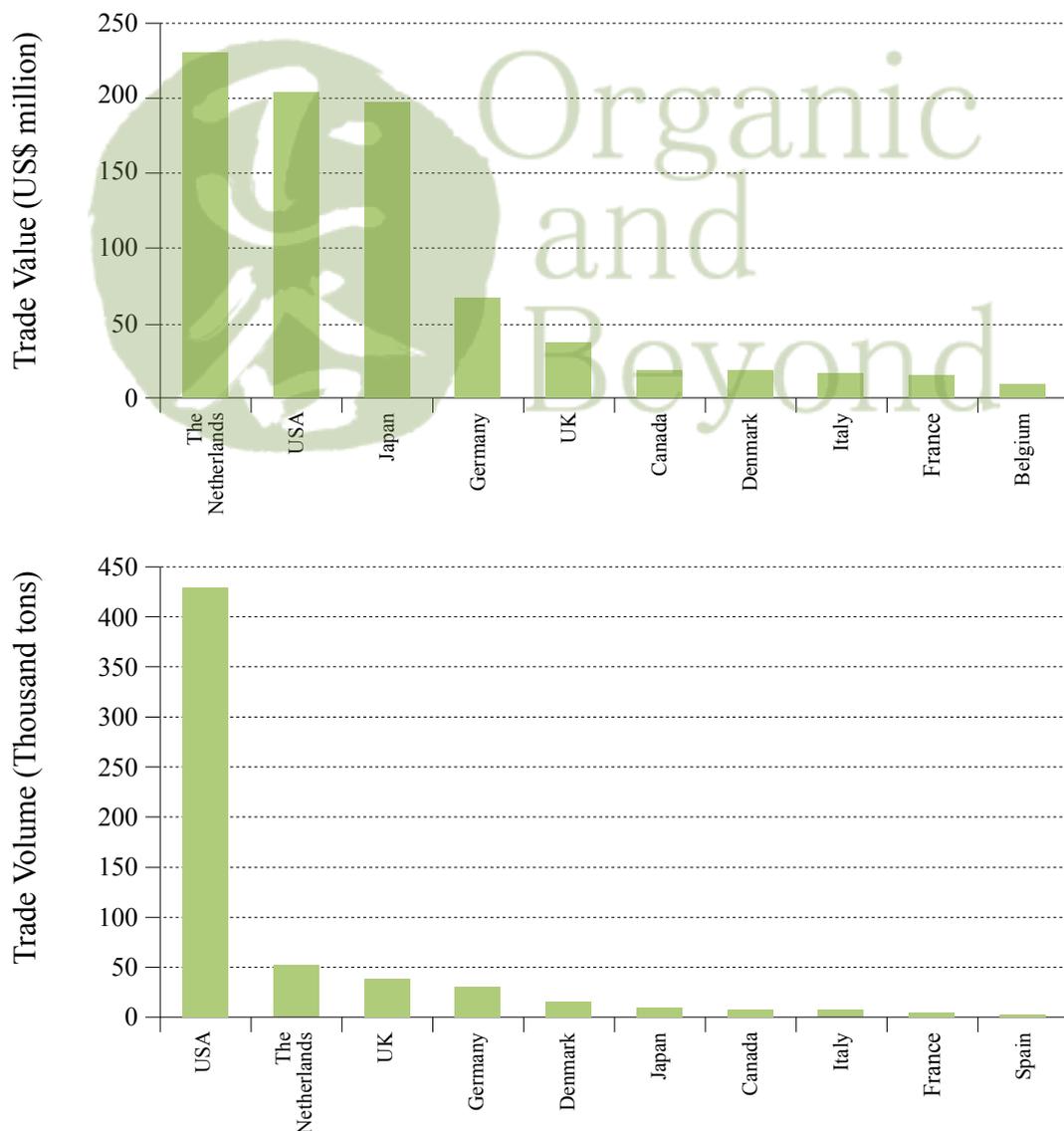


Figure37: Top ten countries by export volume of organic products in 2015

Status of organic product consumption in China

Through the forwarding by WeChat Moments and WeChat group chat and the promotion by BioFach China 2016, a survey was conducted to the status of the organic product consumption in China in May and June of 2016. A total of 729 questionnaires were collected, one of which was invalid. Valid questionnaires were analyzed.

Area distribution of questionnaire population: 725 questionnaires were from all the provinces and municipalities except Tibet in Mainland China, 1 from Taiwan and 2 from abroad. The top 5 questionnaire contributors were Beijing, Zhejiang, Shandong, Jiangsu and Shanghai, accounted for 67.4% of the total (Figure 38). 78.5% of questionnaires were from northern China and eastern China (Figure 39). 77.5% of the respondents had the experience of purchasing organic foods at different frequencies, and 22.5% of the respondents never bought organic foods.



Figure38: City distribution of respondents

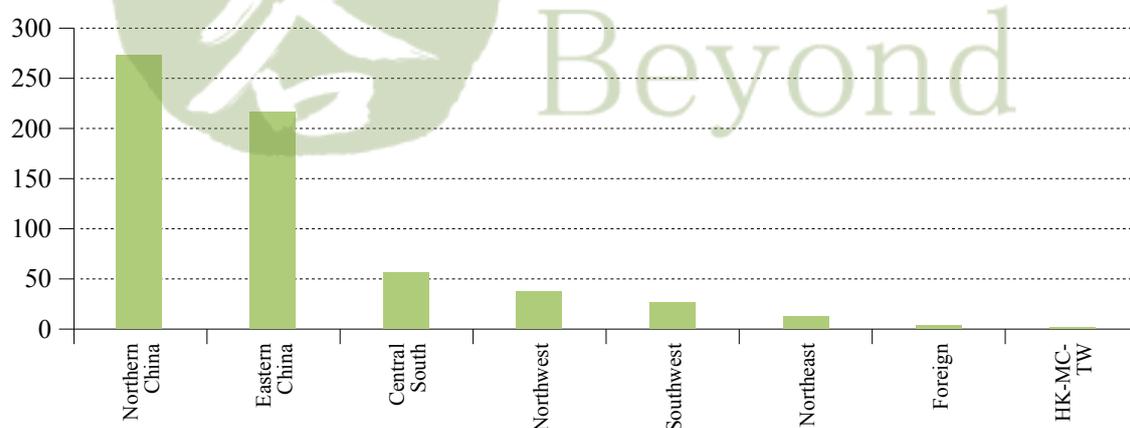


Figure39: Regional distribution of respondents

The public recognition of organic foods

Understanding of “Organic” concept

69.8% of the respondents thought that they knew the concept of “organic food”, and the remaining 30.2% did not think that they understood the concept. In the understanding of the connotation of organic food, most people (92.6% of respondents) could realize that organic food does not use pesticides, chemical fertilizers, growth hormones, antibiotics and synthetic substances; Nearly 60% of respondents recognized that organic food prohibits the use of genetic modification technology, needs relevant certification and pays attention to ecological balance; 28.7% of respondents realized that organic food will consider animal welfare (Figure 40).

Among them, 21.4% of respondents recognized all the connotations (5 choices) of organic product, i.e. their recognition were fully correct. Most of people's understanding of organic connotation was only partial, and 21.6% of respondents selected 4 factors, 22.1% of respondents chose 3 factors, 16.9% of respondents selected 2 factors and 16.9% of respondents selected 1 factor.

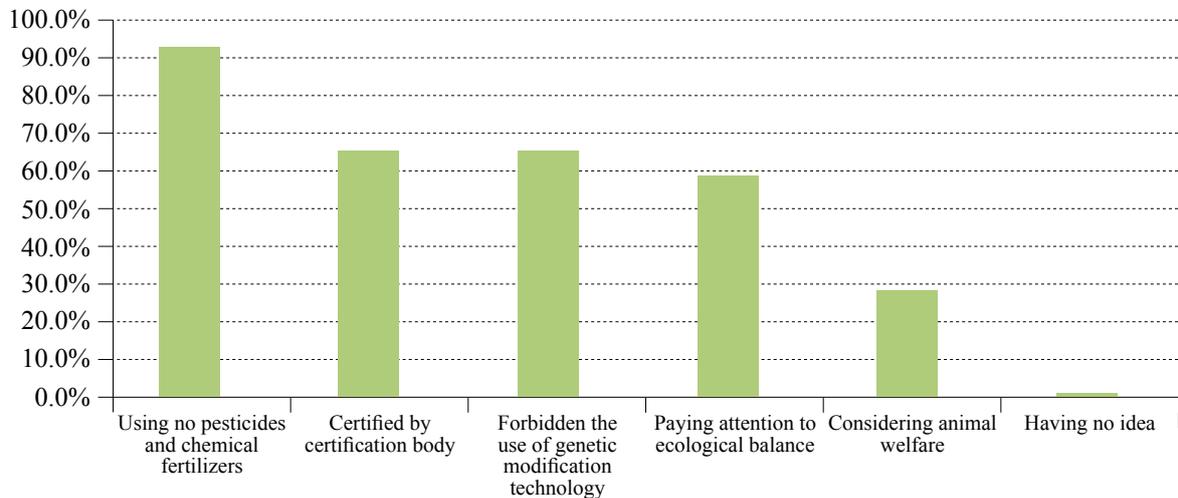


Figure 40: The public's understanding of the connotation of organic food

In the ranking of agricultural product certification, 63.5% of the respondents held that the quality levels, from high to low, are organic, green and pollution-free, in line with general understanding, which was determined as correct; other options were wrong, accounted for 35.5% of the total. A survey of "whether knowing that organic food needs to be certified" showed that 53.7% of the respondents were clear about it; 5.9% of the respondents had unclear conception; 10.4% of the respondents had no idea about it.

Recognition of organic label

As shown in Figure 41, according to a survey on the degree of recognition on 8 kinds of organic labels, with the respondent proportion as the basis of analysis, China's organic certification labels had a high degree of identification (70.9%), which is higher than the organic certification logos of certification bodies (45.5%); Foreign organic logos also had a certain degree of identification in China. American organic certification logos maintained the highest degree of identification (28.3%), followed by Eu's organic certification logos (20.1%) and Japanese organic certification logos (18.7%). In terms of recognition of certification body logos, the logos of IFOAM and WWF were recognized to a certain degree in China, reaching 20-21%. The logo of sustainable consumption with fair trade as an example maintained a relatively low degree of identification in China, only 7.6% of the total. Nearly 20% of the respondents knew none of the logos.

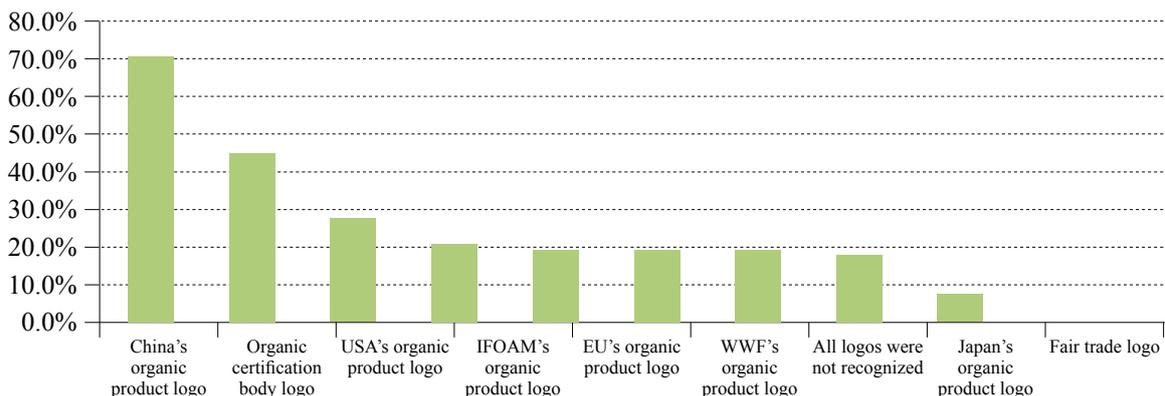
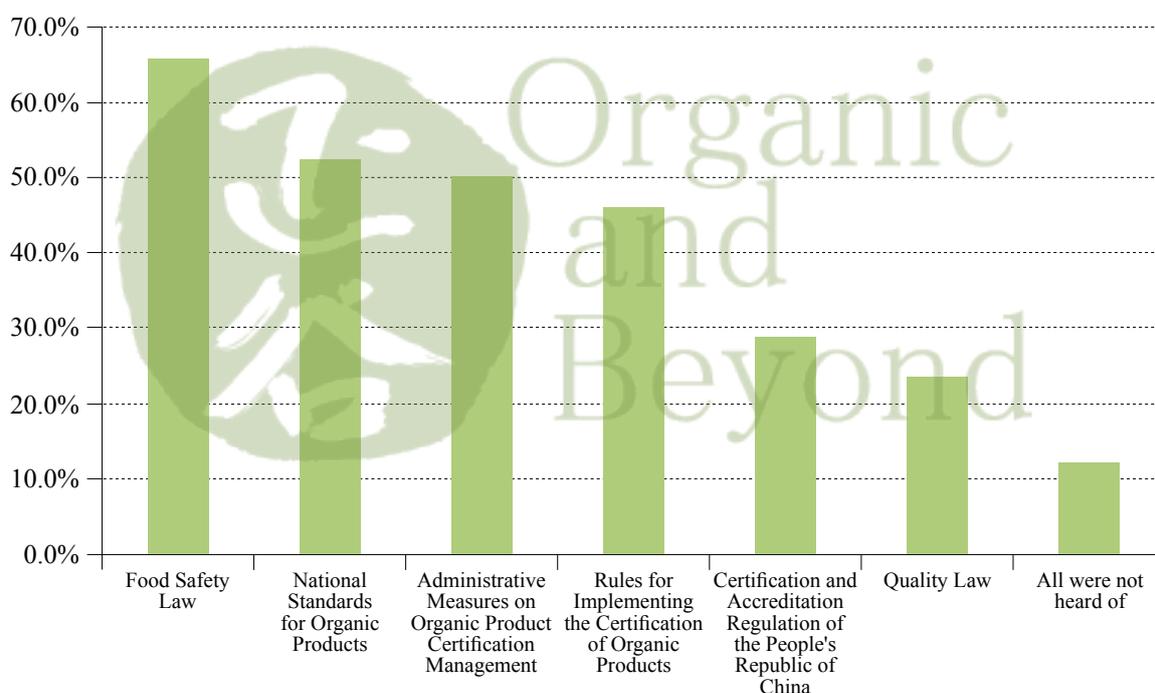


Figure 41: The public's recognition on organic logos and sustainability related standards**Understanding of organic laws/supervision**

65.8% of the respondents once heard of the Food Safety Law; About 50% of respondents once heard of the National Standards for Organic Products, the Administrative Measures on Organic Product Certification Management, the Rules for Implementing the Certification of Organic Products and other laws and regulations on organic certification; About 25% of the respondents once heard of Certification and Accreditation Regulation of the People's Republic of China and the Quality Law; 12.5% of the respondents did not hear any of the laws and regulations cited above. Among the respondents, 12.4% once heard of all the laws and regulations cited above (6 regulations and laws in total), slightly lower than the proportion of the respondents who have comprehensive understanding of the organic connotation (21.4%). This indicated that the legal consciousness was slightly weaker than the recognition consciousness, which was normal. The proportions of the respondents who once heard of some of the laws and regulations cited above and the corresponding quantities of laws and regulations were: 7.4% (5), 12.4% (4), 15.9% (3), 19.0% (2) and 20.5% (1). 12.5% of the respondents did not hear of the six laws and regulations surveyed (Figure 42).

**Figure 42:** Laws and regulations on organic products of which that the public heard

According to a survey on whether the public knows the organic product regulatory authority, 71.3% of respondents held that the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) is responsible for the supervision of organic foods, 47.3% chose CNCA, 49.5% chose third-party certification bodies and 7.9% did not know. In fact, AQSIQ and CNCA have the regulation power to organic products and third-party bodies have no regulation power. 13.2% of respondents fully understand the regulatory agencies of organic products (both AQSIQ and CNCA selected). The proportion is slightly lower than that of the respondents who fully understand the organic connotation (21.4%). This indicates that the legal consciousness is slightly weaker than the recognition consciousness. It is closed to the proportion of the respondents who once heard of all laws and regulations on organic products (12.4%), which is normal (Figure 43).

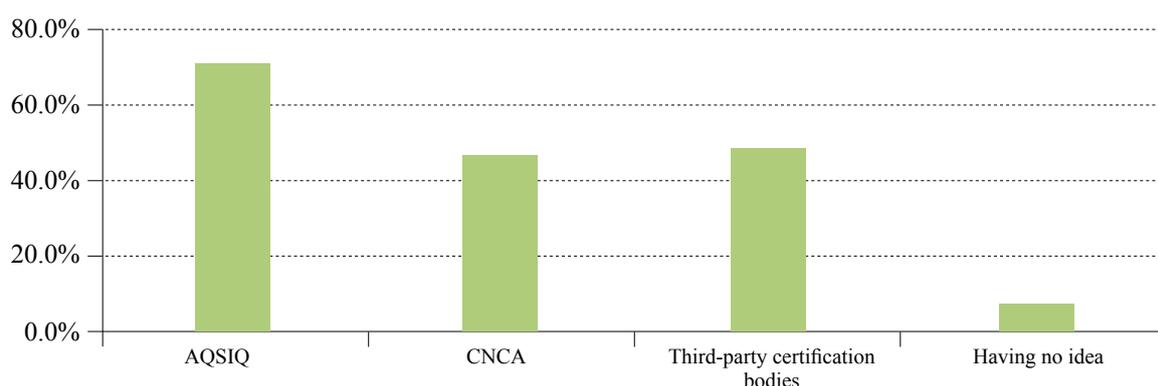


Figure 43: Regulatory agencies responsible for organic product supervision and management in the public opinions

After purchased counterfeit organic products, consumers may report to certification bodies, local quality supervision and management agencies, CNCA and “315 Consumers' Association”. 13.9% of the respondents made fully correct selection (four options chosen), 18.1% of the respondents chose three options, 28.8% of them chose two options and 27.1% of them chose one option. 12.1% of the respondents did not make selection (selecting “Having no idea”). Figure 44 shows the selected number of the agencies for legal right safeguarding in the public opinions. The public are more inclined to select “315” Consumers' Association and local quality supervision and management agencies to support their legal right.

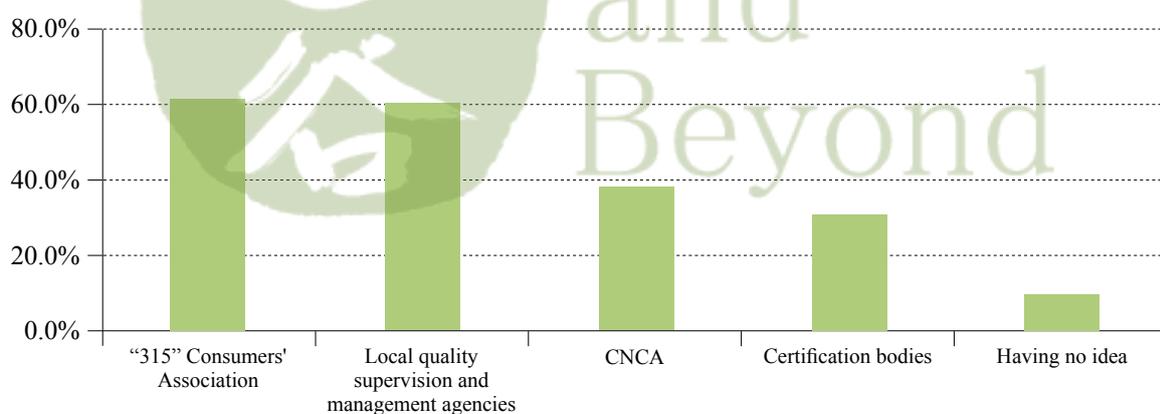


Figure 44: Agencies responsible for organic product related legal rights safeguards in the public opinions

Status of organic foods buying

Frequency of and annual costs on organic food buying

Among 728 respondents, 77.5% of the respondents have bought organic foods, among which, 13% bought organic foods every week, 20.6% every month and 43.3% occasionally purchased in one year; 22.5% of respondents never bought organic foods (Figure 45). In consideration that most of samples were collected with the aid of the organizations in the organic industry, those who once bought organic foods in China should be far lower than the indicated proportion, so the result presented by the overall data in this article should reflect the majority of people who have the habits to consume organic foods.

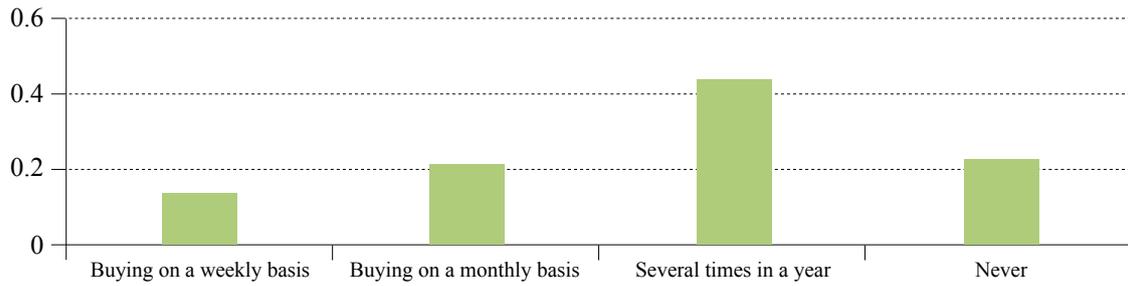


Figure 45: Frequency of the public buying organic foods

Among the respondents buying organic foods, 12.2% spend over RMB 10,000 on organic foods annually, 15.4% spend RMB 5,000 to RMB 10,000 annually, 31.4% spend RMB 1,000 to RMB 5,000 annually, and 41% spend less than RMB 1,000 annually. On average, among the respondents consuming organic foods, the per capital annual consumption is about RMB 4,000 (Figure 46).

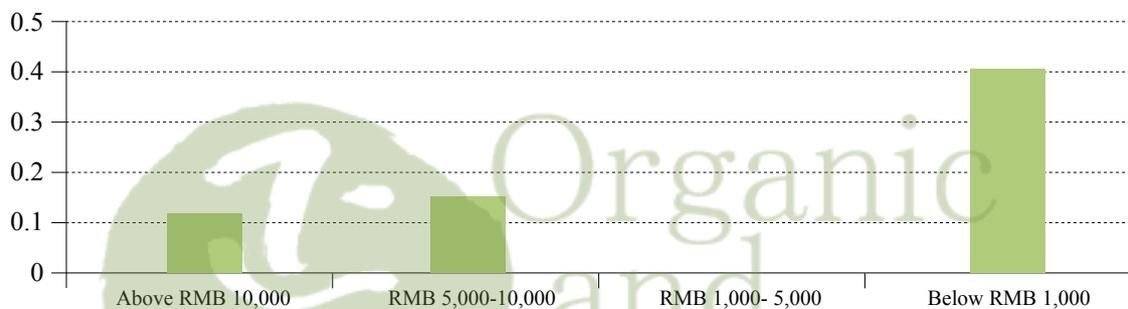


Figure 46: Annual costs of consumers on organic food

Varieties of frequently purchased organic products

On the shopping list of the 564 respondents who have organic food purchasing experience, the most frequently purchased organic foods are ranked as below: vegetables, fruits, cereal and grains, oil, poultry eggs, and dairy products (Figure 47). Most of the respondents had demand for multiple varieties, and 31.0% of respondents commonly purchased more than 6 varieties, and more than half of the respondents (59.8%) purchased 2 to 5 varieties and 9.2% of the respondents purchased one variety.

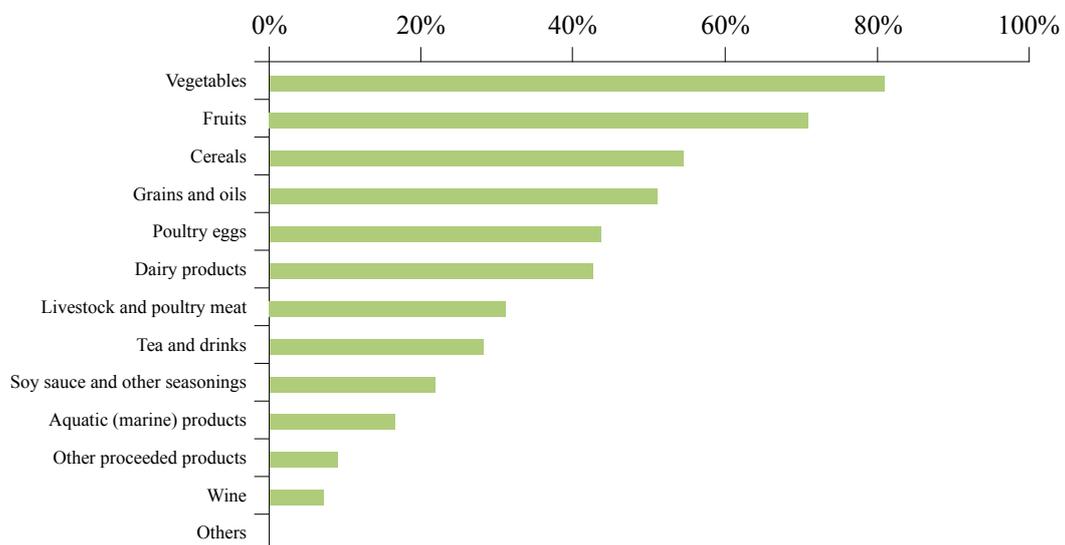
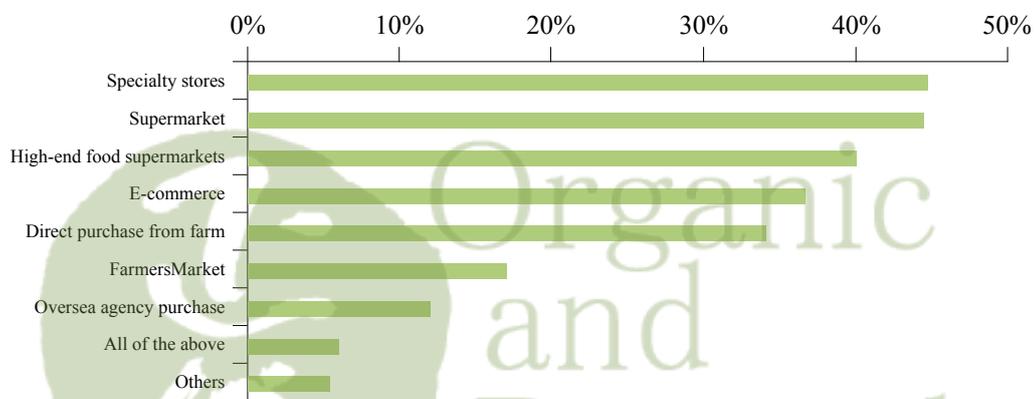
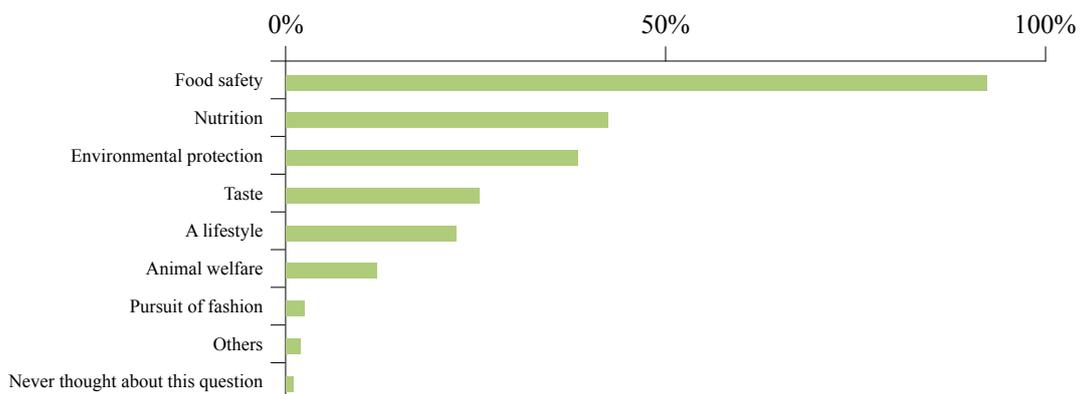


Figure 47: Varieties of consumers most of ten bought organic foods**Channels for organic food buying**

The top three channels to buy organic foods, according to the questionnaires, are traditional channels, respectively specialty stores (44.7%), traditional supermarkets (44.5%) and high-end food supermarkets (40.1%) (Figure 48); New channels like online platform and direct purchase from farms take slightly lower proportions but are similar to the traditional channels, respectively 36.7% and 34.0%; Farmers market, overseas agency purchase and other purchase channels are strongly personalized but have small coverage, which are most concentrated in Beijing, Shanghai and other first-tier developed cities. In these areas, consumers have good consumer consciousness, while producers (farmers) have a better platform of promotion that can have direct communication with customers and deal with complex logistics problems. Compared with the wide varieties purchase, most respondents select 1 to 3 purchase channels for organic food purchase, accounting for 81.6% in total.

**Figure 48: Channels for consumers to purchase organic foods****Characteristics and psychology of consumers****Motivation for organic food purchase****Figure 49: Reasons for consumers to buy organic foods**

Through the analysis of Figure 49, food safety is still the top reason for consumers to buy organic foods and accounted for 92.6%. That is, most consumers believe that organic foods are safer than other conventional products. The proportion is consistent with the proportion of people understanding of the connotation of organic foods in Section 3.3.1.1—organic foods do not use pesticides, chemical fertilizers, growth hormones, antibiotics or synthetic substances (92.6%).

Although reasons why organic foods do not use pesticides or chemical fertilizers are for the health of soil, animals, plants and the environment, most of consumers are more concerned about their own health, indicating that self-interest factors are the reason that surpasses altruistic factors and directly stimulate consumers to choose organic foods; and the consideration of food safety highly tops other aspects is possibly related to the public's worry about the background of domestic food safety. The second reason for consumers to buy organic foods is nutrition, which accounts for 42.9% and also is a self-interest factor. The third reason is environmental protection and accounts for 38.7%, which is slightly lower than the proportion of the customers understanding of the connotation of organic foods (58.8%) and is an altruistic factor. The proportion of consumers considering animal welfare in time of buying organic foods (12.2%) is slightly lower than that of considering animal welfare in time of understanding the connotation of organic food (28.7%). Multiple reasons will lead to organic food purchase behaviors, and 69.1% of respondents choose to buy organic foods for a combination of reasons (two or more).

Supporting evidence for organic food purchase

The supporting evidence for organic food purchase are ranked in the in sequence below: certification logo (76.4%), brand (55.7%), purchase channel (36.7%), certification traceability query (35.5%) and whether imported (8.2%) (Figure 50). 86.5% of buyers can make judgment and choice when buying organic foods through limited kinds of characteristics (1-3 kinds). Therefore, different from the need of multiple reasons to promote more consumption, there is a need to provide the consumers with simple evidence to facilitate them to purchase organic foods. Certification logo is definitely a simple judgment basis, and promotion can be conducted through government action to improve the identification; second, in terms of the enterprise's own behaviors, there is a need to strengthen brand building, establish market credibility and build customer relations.

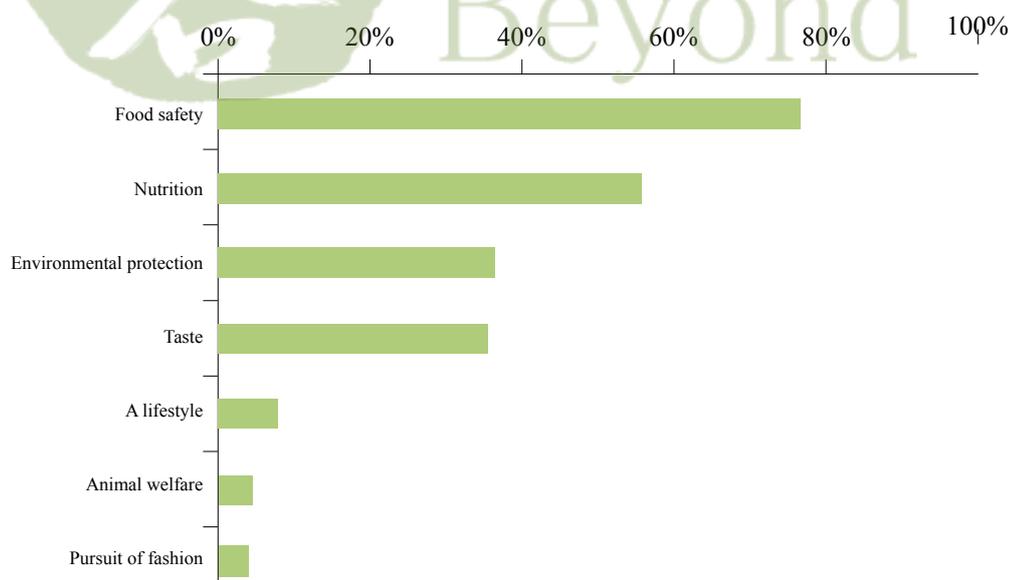


Figure 50: Judgment bases for consumers to buy organic foods

Characteristics of consumers

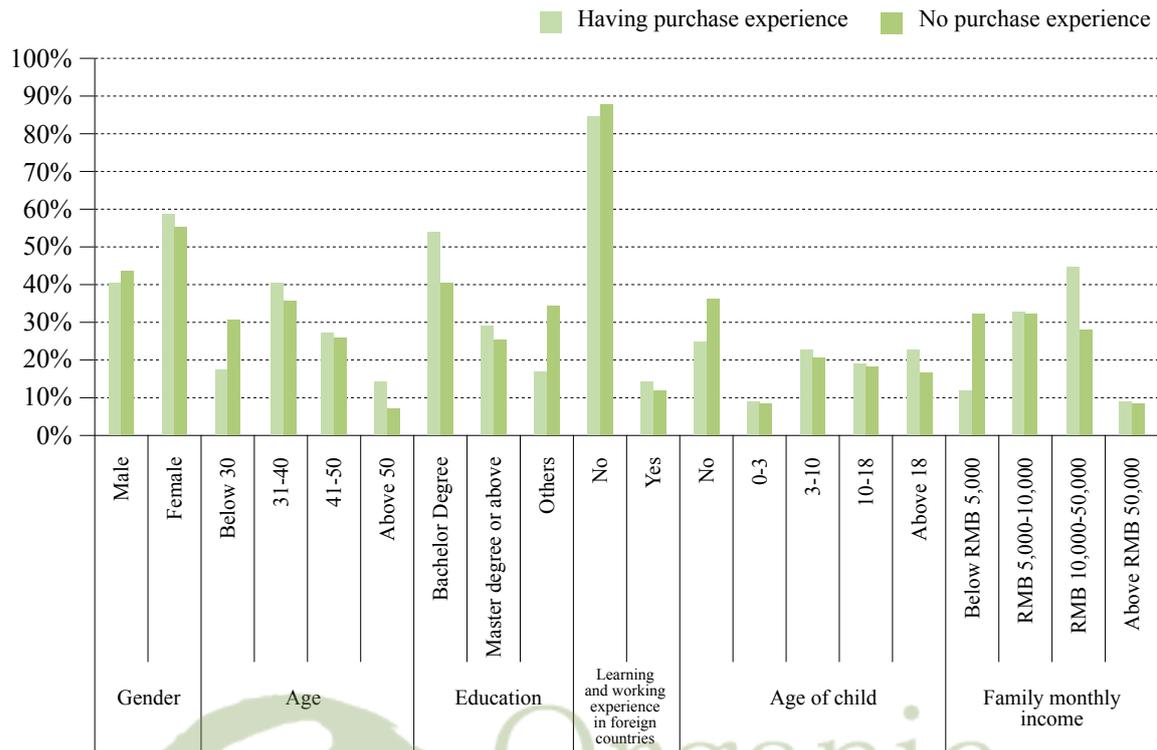


Figure 51: Characteristics of consumers of organic foods

In this part, cross-over analysis method and correlation analysis method are adopted. Based on the 728 valid questionnaires, analysis is made on the basic information and characteristics of the consumers of different purchase frequencies. From the samples obtained, the respondents who once purchased organic foods (564 people, accounting for 77.5%) have the following characteristics: Female, aged 31-40 years old, bachelor degree, without learning and working experience in foreign countries, without children, and monthly family income of RMB 10,000-50,000 (Figure 50). The respondents who had never purchased organic foods (164 people, accounting for 22.5%) have the following characteristics: Female, aged 31-40 years old, bachelor degree, without learning and working experience in foreign countries, without children, and monthly family income of RMB 5,000-10,000 (Figure 51). A comparison between the characteristics of the two groups shows that monthly family income is the main factor affects their purchase motivation. This may result from the prices of domestic organic foods which are higher than those of conventional foods. Through an analysis on the respondents who bought organic foods on weekly, monthly and yearly basis, in case that the relative proportions of other factors remain unchanged, the frequency of purchase will increase as there are children involved. For the respondents with children aged 3-10 and above 18, the proportion of customers purchasing organic foods is relatively high, which possibly results from the gradual transition to organic foods during the process that parents raise children, or from that as they get older, they will pay more attention to the health of themselves or their own parents.

Trust and confidence of the public in organic foods

Trust and confidence in organic Foods

The survey of the trust and confidence in organic foods was conducted to 564 respondents who once bought organic foods (certified organic foods). The trust and confidence in the production of organic foods indicates whether consumers believe that the production is carried out in an organic way. The trust and confidence in the circulation indicates whether consumers believe the traceability of

organic foods.

As shown in Figure 52, on the whole, consumers who are more satisfied with the organic foods account for 23.2%-31.7%, “satisfied” for 47.2%-50.7%, “less satisfied” for 13.1%-26.6%, “dissatisfied” for 2.1%-4.1%, and who “don’t care” account less than 2.5%. That is, consumers with positive psychological impression (more satisfied and satisfied) account for more than 70%. Respectively, the trust and confidence of consumers in the quality of organic foods is higher than that in the production and that in the circulation. This psychological phenomenon can also explain why most companies now choose the whole industry chain service model to directly face their customers from production to sales. The development of domestic e-commerce and self-media also provides a convenience for this demand.

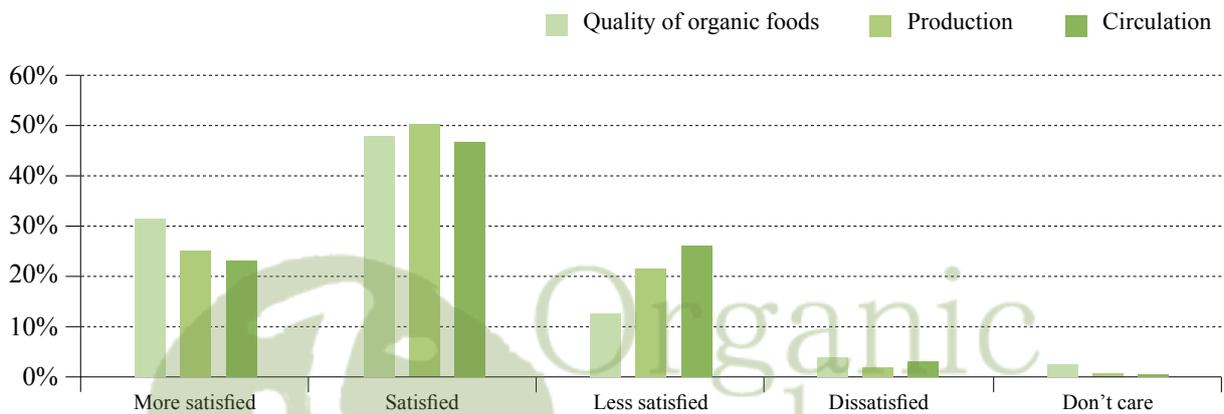


Figure 52: Confidence of consumers in organic foods

Trust and confidence in media publicity

The guidance by the media publicity on organic foods has two sides: positive publicity and negative publicity. 11.9%/6.2% of respondents fully believed positive/negative publicity, 59.9%/47.2% basically believed, 26.4%/43.6% less believed and 1.8%/3.0% totally did not believe (Figure 53). On the whole, the media has relatively high guiding influence on consumers, and more than 50% of respondents basically or fully believed the media publicity. Respectively, the degree of trust of respondents in the positive media publicity is higher than that in the negative publicity, which also indicates that the consumers of organic foods are gradually becoming mature. The degree of trust of respondents in the negative media publicity is not high, which also poses challenges to the media publicity: The media coverage of the organic industry should be more objective, and the media also shall grasp certain industry knowledge.

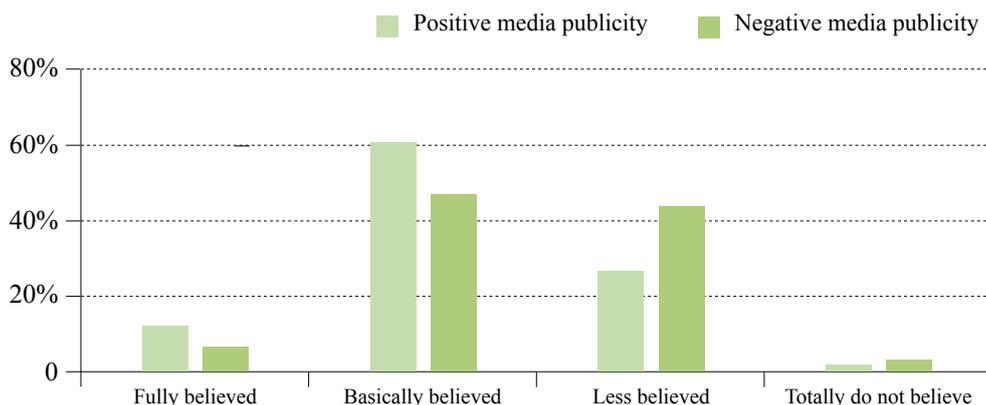
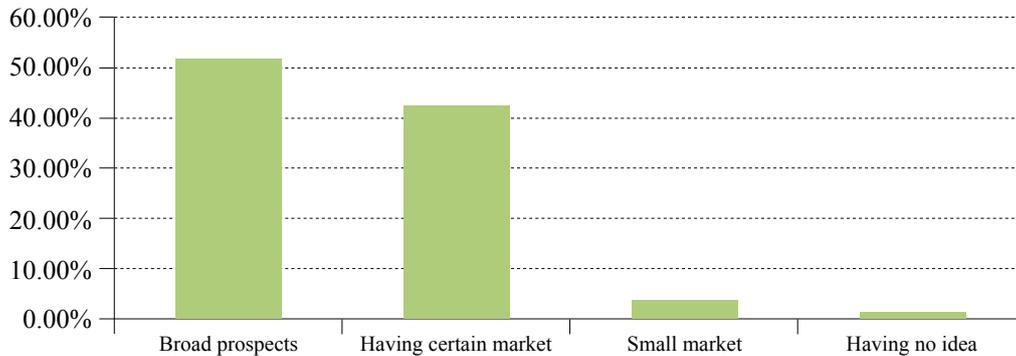


Figure 53: Trust and confidence of consumers in media publicity**Confidence in market development and government regulation of domestic organic products**

Most respondents believed that the domestic organic food market has a promising outlook (51.8%) and certain market (42.6%). This shows that consumers are confident in the market development of organic products (Figure 54).

**Figure 54:** Confidence of consumers in market development of organic products**Trust and confidence in the improvement of environment and human health by organic products**

Most respondents basically believed that organic agriculture can improve the environment and organic foods can improve their health. In contrast, more respondents believed that organic agriculture could improve the environment. The proportion of respondents who fully believed that organic agriculture could improve environment totals to 91.5% while that of respondents who basically believed totals to 85% (Figure 55). This verifies the analysis in Section 3.3.3.1 that consumers buy organic foods from the self-interest point of view (the proportions of selecting food safety and nutrition are respectively 92.6% and 42.9%) and then from the altruistic point of view (38.7% selected environmental protection), but also a combination of reasons.

So, there will be psychological transformation from the understanding to generating buying behaviors, but it is still the result of multi-factor interaction. In terms of the promotion of organic foods, the promotion from multiple aspects is needed to present the positive aspects of organic agriculture and organic foods from the self-interest (safety, nutrition, health, fashion, etc.) and the altruistic (environmental protection, animal welfare) point of view.

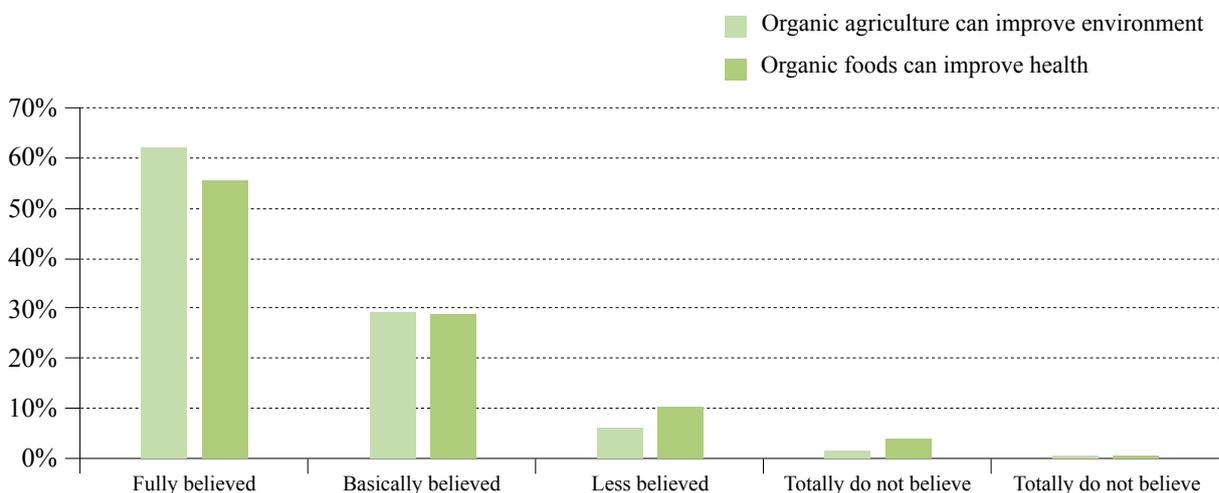


Figure 55: Trust and confidence of consumers in the improvement of environment and human health by organic products

Outlook

Since the end of the 1980s, organic agriculture has developed for nearly 30 years in China. It is a very new industry. But China's organic farming tradition has been available for a thousand years, with a good production base. In the process that the organic industry develops, there is a need to promote a broad understanding and acceptance of truly sustainable agricultural system and market based on organic principles, during which, a kind of price-based culture that can reflect the true value is always existing. Such culture is innovative, transparent, honest and inclusive with continuous improvement towards best practices and complete systemic functions. At the same time, there is a need for the participation and dialogues by all stakeholders, including local and global stakeholders, large enterprises and farmers, producers, value chain operators, consumers and civic organizations. Service providers include certification and advisory bodies, media, governments and organizations, thus forming a wider impact and more sustainable development.



Production and Trade of Organic Rice, Vegetables, Tea and Dairy

Organic rice

Overview of China's organic rice development

China's organic rice production and development started in the late 1990s. At that time, with the rapid development of organic agriculture internationally and the advancement of China's reform and opening up and the improvement of people's living standards, a group of scientific and technical personnel of China National Rice Research Institute began the research on the organic standards established by IFOAM, America and Japan in 1996. And in 1999, they carried out the experimental study of the production in accordance with the translated version of Codex Alimentarius Commission's Guidelines for the Production, Processing, Labeling and Marketing of Organically Produced Foods(CAC/GL1999). The control experiment carried out on 200 mu of farmlands of Tangxi Rice Planting Base Jinhua City of Zhejiang Province. China's organic rice certification started in the middle of 1990s. Organic Food Developing Center (OFDC) of the Ministry of Environmental Protection issued the first organic rice certificate for 50 mu of organic rice grown in Lishui County, Jiangsu Province at the end of 1997 (Organic Agriculture Special Committee of China Green Food Association, 2015).

As of December 31, 2015, 211 thousand hectares of lands had been certified organic for paddy production according to China's organic product standards. The yield of certified organic paddy was 1.265 million tons, the yield of certified organic rice at 453.8 thousand tons and the yield of certified organic rice and flour products was 30.5 thousand tons. There were 1,457 certified organic rice enterprises, with 1,595 organic certificates issued. See Table 17 for the production areas and yields of organic rice in the recent three years. The production area fluctuated from 150 thousand hectares to 180 thousand hectares, with yield around 1 million tons. Organic rice has become one of the organic products that has the highest quantity of organic certification among China's planting products, and its area has accounted for one third of that of organic grain.

Table 17: Production of organic rice 2013-2015

	Production Area (Thousand ha)	Total Yield (Thousand tons)	Yield/Ha (ton)
2013	171	1063	6.21
2014	182	1051	5.78
2015	150	918	6.12

Distribution of production regions of organic rice in China

Distribution of producing areas

As of December 31, 2015, except Qinghai Province, Shanxi Province, Gansu Province and Hainan Province as well as Hong Kong SAR. and Macao SAR., 28 provinces (including Taiwan Province) had planted or certified organic rice. Among them, 17 provinces had a planting area of organic rice more than 1,000 hectares (Table 18). From the data above, it can be seen that three northeastern provinces of China were still the main production regions of organic rice, with a total production area of more than 100 thousand hectares, accounted for more than 50% of the total lands for rice-planting in China. The planting areas of Heilongjiang Province, Jilin Province and Liaoning

Province were respectively 82 thousand hectares, 12 thousand hectares and 10 thousand hectares.

Table 18: Provinces with producing area of organic rice over 1,000 hectares

Province	Area (Ha)	Province	Area (Ha)
Heilongjiang	82,238	Hubei	2,757
Jilin	12,475	Anhui	2,049
Liaoning	10,042	Shandong	1,917
Jiangxi	9,448	Zhejiang	1,721
Inner Mongolia	5,946	Sichuan	1,423
Guangdong	5,759	Xinjiang	1,356
Ningxia	4,433	Fujian	1,207
Jiangsu	3,925	Guangxi	1,050

Distribution of certified rice

Categorized based on production regions and types of rice, the areas to the north of the Yangtze River are the Northern Rice Area, where the rice plant is fully japonica rice, and areas to the south of the Yangtze River are the Southern Rice Area, with focus on long-shaped rice planting (some provinces close to the middle and lower reaches of the Yangtze River and the Yunnan-Guizhou Plateau plant both japonica rice and long-shaped rice, with a small amount of japonica rice excluded). Among the producing areas of japonica rice, the top five provinces ranked by the yield of certified organic paddy are Heilongjiang Province (496 thousand tons), Jilin Province (77 thousand tons), Liaoning Province (27 thousand tons), Jiangsu Province (21 thousand tons) and Inner Mongolia Autonomous Region (18 thousand tons). Among the production regions of long-shaped rice, the top five provinces by the yield of certified organic paddy are Guangdong Province (47 thousand tons), Jiangxi Province (32 thousand tons), Zhejiang Province (11 thousand tons), Fujian Province and Sichuan Province (both 7,000 tons) (Figure 56).

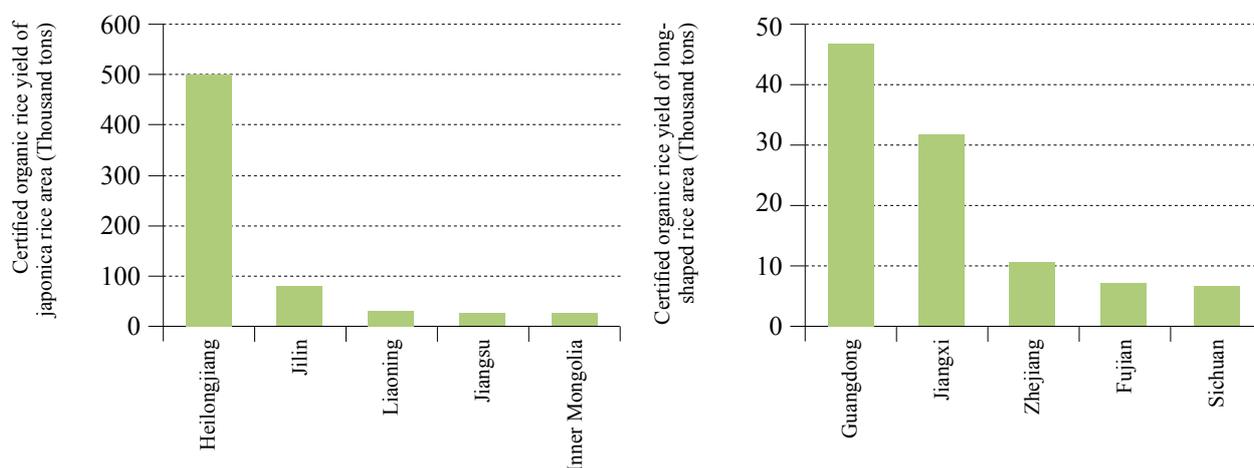


Figure 56: Top provinces by certified yield of organic paddy**Status of China's organic rice market**

So far, there is no specific organization who is responsible for the analysis and statistics of the sales of organic rice in domestic market. Therefore, there is no accurate data for query. But the following two types of statistical data can be used as references.

According to the statistics of China's food and agricultural product certification information system, the output value of organic paddy reached RMB 1.34 billion, that of paddy in organic conversion period was RMB 0.96 billion and that of processed organic rice was RMB 4.08 billion in China in 2015. These output value data were estimated based on the assumed full sales. According to China's 17-digital organic code management system on the principle of "one code for one product" that was established in 2014, the organic code must be used on the smallest selling package of organic products. According to the data from China's food and agricultural product certification information system, 24.9 million organic labels were filed and issued for organic rice in 2015, and was the highest number of organic codes records among organic products in China's planting industry.

A survey conducted by China National Rice Research Institute on organic rice producers in recent three years indicates that the retention rate of the current-year produced organic paddy is generally around 30%, which will be fully consumed in the next year. Organic paddy is used in three ways: The current-year produced organic paddy is processed into organic rice; organic paddy (raw material) is sold to qualified organic rice processor; the second-year stock organic rice is mostly converted into general rice for processing and selling or sold to rice food producers, with a small part for organic rice processing.

About 50%-70% of japonica rice and 30%-50% of long-shaped rice are sold after the current-year produced organic paddy is processed into organic rice. Only few producers can sell 80%-100% of organic rice produced in the same year. Accordingly, it can be inferred that the domestic sales of organic rice in China accounts for 60% of the total yield.

Currently, the modes and channels for the sales of organic rice mainly include: direct sales by the production enterprises, direct sales by supermarkets and professional markets, on-line sales through e-commerce platform, community and store consignment, and express delivery. The main sales areas and consumers are large and medium-sized cities in economically developed areas, large cities in the Midwest, (group purchase by) intermediate and high-end hotels, organic restaurants and large private enterprises, and people pursuing high-quality products. But in term of sales mode, the lack of understanding between consumers and producers and the insufficient publicity of corresponding measures, brands and quality have affected the sales.

The status of the domestic market reflects the obvious problems at four levels: 1) China's relevant departments or organizations lack sufficient cultivation for organic rice market, with the total yield rising but the promising market hasn't contributed satisfactory sales; 2) producers have over expectations for the market and the selling prices so high with big gap between value and price, and lacking transparency for the traceability system; dealers only understand part of the production, technology applications, quality and control of the organic rice, which affect the accurate explanations for characteristics of the products when selling; consumers do not have comprehensive recognition of organic rice and have doubts in time of purchase.

Prospects of organic rice industry in China**Diverse market demands for organic rice will mature over time**

With the advancement of standardized organic production, normalized organic certification,

cognizant organic consumption and sustainable organic supervision, the cultivation of organic product market will be improved. This is beneficial for organic rice industry to be in line with the supply-side structural reform, and to meet diverse market demands and bring good prospects for development:

(1) There will be a big increase in the demand for organic rice. With the urbanization in China, the increase in the proportion of middle-class and the doubling of the population pursuing high quality of life, it can be predicted that in the next five years the proportion of the people choosing organic rice will increase constantly. The demand for edible organic rice will be 1 million tons to 1.5 million tons per year, which will be 2 - 3 times of the total yield in 2015.

(2) The deeply processed products of organic rice will be greatly expanded. China enjoys the fame of “the Kingdom of Rice Food”. The production of organic products with organic rice as raw materials such as rice products, snack foods, rice wine products, rice drinks and rice condiments just starts. With the increase in market demand, the raw material demand of such deeply processed products will be multiplied and the increase of total demand will be very optimistic.

(3) There is a huge demand space for the comprehensive development and utilization of organic rice by-products. It has been on the agenda of relevant Chinese scientific and technological institutions to utilize such by-products as organic straw, organic chaff and organic rice bran power to develop and produce organic paper film, organic food container, organic toys, organic feeds, organic health products and cosmetics. Some products have been available on the market. It is believed that the comprehensive development in this area for products will tend to be mature and its demand will also effectively promote the increase in organic rice consumption.

The production expansion space of organic rice will increase

Market-driven is the absolute principle for the organic rice industry to adapt to the supply-side structural reform. Then, how is the production expansion space of organic rice? It can be recognized and the confidence can be boosted from the following three aspects:

(1) Expansion of production area. In 2015, the certified organic rice production area was 150 thousand hectares and only accounted for 0.5% in the 30 million hectares of rice planting area in the whole country. If it is calculated as per 4 times or 600 thousand hectares, it only accounts for 2% of the total production area. The area suitable for organic rice planting in China’s rice planting areas is no less than 3 million mu, therefore, in the long run, its production area expansion potential is very big.

(2) Expansion of production. In 2015, a total of 918 thousand tons of paddy passed organic certification and organic conversion, only accounted for 0.46% in China’s total paddy yield of 210 million tons. In the same year, the yield of certified organic rice totaled 453.8 thousand tons, accounted for only 0.27% in China’s total rice yield of 120 million tons. The average yield per hectare of organic rice was 6.12 tons in 2015, and compared with the national average of 6.90 tons per hectare of ordinary rice production, there was a gap of 12.7%. Therefore, as long as proper species is selected and supporting appropriate “fine seed and fine method” integration technology is applied in place in organic rice production, there is big expansion space for the average yield per mu, the total paddy harvest and the certified total yield.

(3) Organic rice seed industry is expected to rise. In accordance with the National Standards of Organic Products, organic seeds and seedlings are necessary for the production of organic crops. Organic rice industry, as the largest industry of China’s organic crop certification, will have a huge demand for the production of organic rice seed. But there is still a niche in China’s organic paddy seed cultivation and production as well as organic paddy seed certification. With the tightening

regulations on organic certification and the development need for the whole-process quality control of organic rice production, China must promote the organic rice seed industry. Currently, relevant research institutions, seed companies, leading organic rice production enterprises are planning to start this work and the rise of organic rice seed industry will also be the trend.

Quality improvement and brand innovation of organic rice become new highlights

In the past 20 years of development, China's organic rice industry mainly dealt with the standardization of production process based on application of technologies and it was conducted complying with production, environmental protection, agricultural planting structure adjustment, sustainable development and product and food safety. But the organic rice entered the market as a commodity. In the time that the whole society pays attention to food safety, the new factors for its marketing should be food safety. In addition to "good appearance", it should meet the quality demands for "taste" and nutrition and consider brand credibility. To this end, the key factors for the overall transformation and upgrading of China's organic rice industry would be emphasizing market demand orientation and paying attention to the appearance and processing quality of organic rice, cooking and eating quality and diversified nutritional quality and integrated brand and product quality.

In this regard, relevant local governments, scientific research and technology institutions, industry associations and other organizations have been actively guiding and supporting the production unit to adjust structure and transfer mode so that it can better adapt to the supply-side structural reform trend. In the 7th and the 9th BioFach Shanghai jointly held by the Green Food Management Office of Ministry of Agriculture of the PRC and Exhibition Centre Nuremberg in Shanghai, "Organic Rice Tasting Competition" was organized and more than 40 organic rice brands, through professional appraisal, were awarded as "Golden Award", "Good Taste Award" and "Excellent Taste Award". China National Rice Research Institute worked with Rice and Rice Product Quality Inspection Center of the Ministry of Agriculture, Organic Agriculture Professional Committee of China Green Food Association and other institutions to hold the appraisal of the First China's "Excellent Seed, Premium Quality and Good Taste" Organic Rice Gold Award Competition in Hangzhou in December 2015. Through the joint tasting and appraisal by experts and consumers, "Excellent Seed, Premium Quality and Good Taste" Golden Award was granted to 10 organic japonica rice brands and 5 organic long-shaped rice brands. These appraisal activities highlighted the brand building from the perspective of the quality and safety of edible agricultural products and aroused a high degree of social and industry attention. They not only guided the production units to pay more attention to the production of organic rice towards the direction of the agricultural brand of "excellent seed, premium quality and good taste" but also conveyed the information of "China has good organic rice with better taste" in the current domestic market. At present, a large number of organic rice production units are taking a number of measures for a positive transformation in this direction.

Quality improvement and brand innovation of organic rice become new highlights

China's organic rice production bases all feature good environment and obvious ecological advantages. A lot of bases locate in regions with picturesque scenery, excellent air quality and profound farming culture. Many of them are the origins of "tribute rice" in history. As China's rice industry is still one of the weak industries, organic rice industry is not an exception. But if the environment, ecology, culture and other characteristic resources can be effectively connected with the production characteristics, its advantages will be fully utilized. Coupled with the promotion of cultural tourism, leisure and tourism agriculture, rural residence and other tertiary industry projects development, the various types of benefits of its industrial development will increase with each passing day.

At present, a number of organic rice production units in China have joined hands with relevant departments or investors, with organic rice production base as the basis, to establish “organic agriculture demonstration park” and expand such diverse and fun service items as parent-child education experience, rice land ecological tourism, organic farming culture presentation, health care and leisure photography and folk song collection, organic food taste appreciation, agent rice field farming and harvest and organic processing technology appreciation, reflecting the innovative integration of the primary, secondary and tertiary industries in the whole industry chain of organic rice. This phenomenon reflects the need to utilize a variety of advantageous resources and advance the development of China's "Organic Rice +" new industry mode under the new normal of China's economic development.

Organic vegetables

Overview of vegetable production

Overview of production

In 2015, 3,764 certificates of organic vegetables were issued, including 2,577 organic certificates and 1,186 organic conversion certificates. Seen from the 14 types of vegetables, solanaceous vegetables obtained the largest number of certificates which was 556, followed by melon vegetables which were issued with 344 certificates and leafy greens with 311 certificates (Figure 57).

Except the edible mushrooms, the top five organic vegetables in terms of production area were respectively tubers, fresh perennials, fresh aquatic vegetables, leafy greens, and fresh solanaceous vegetables, which accounted for 39% in the total production area of organic vegetables. As for the yield, the top five were respectively tubers, fresh solanaceous vegetables, fresh root vegetables, melon vegetables and Chinese cabbages, which accounted for 60% in the total yield.

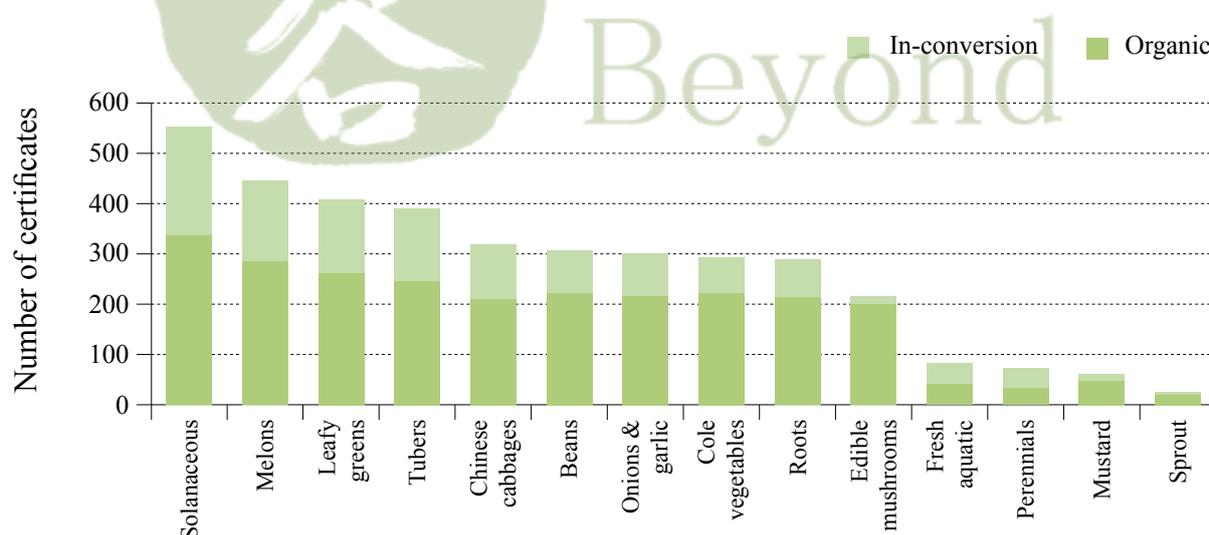


Figure 57: Organic vegetables with certificates issued in China 2015

The top ten organic vegetables issued with certificates were respectively tomato, Pepper, cucumber, eggplant, Chinese cabbage, cabbage, leaf lettuce, radish, sweet potato, and cauliflower (Figure 58), and the first four belonged to melon and fruit vegetables, and there were also four leafy vegetables and two tubers. Among them, tomato obtained the most number of certificates which was 432, and issued to 403 companies, followed by chili and cucumber with a number of 361 and 359 certificates respectively and the companies certified were 336 and 341 respectively.

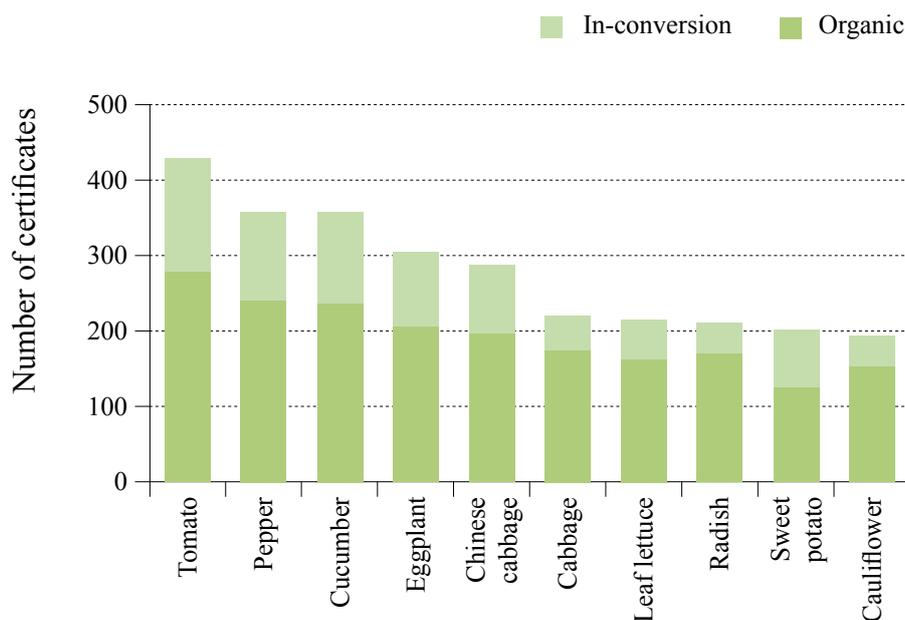
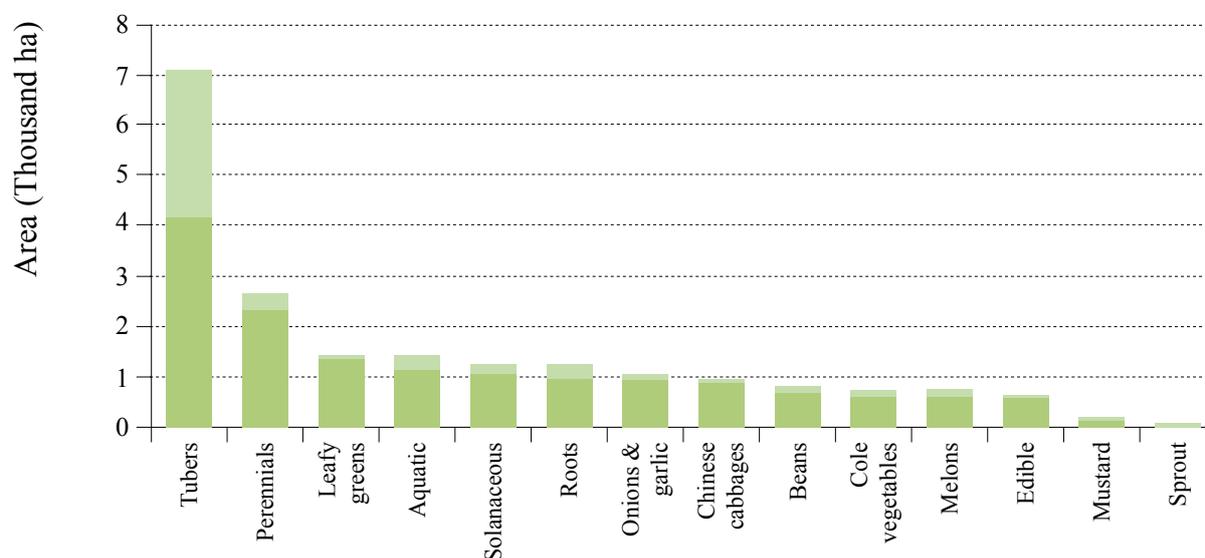


Figure 58: Top ten organic vegetables with certificate issued in China 2015

In terms of area, the total organic production area of vegetables in 2015 was 20 thousand hectares, and the organic planting vegetables occupied 15.2 thousand hectares and the conversion to organic vegetables occupied 4,800 hectares (Figure 59). Tubers ranked top with an area of 7,000 hectares and accounted for 36% of the total, followed by perennials, leafy greens, aquatic vegetables and solanaceous vegetables.

In terms of yield, the total yield of vegetables with organic and conversion to organic certificates issued was 440 thousand tons, and the yield of organic vegetables was 320 thousand tons while the conversion to organic was 120 thousand tons. Tubers ranked top with a yield of 160 thousand tons and accounted for 37% of the total, which might be closely related to the categories and growth characteristics of tubers. The yield of solanaceous vegetables ranked second and accounted for 10% of the total; the proportion of other categories was less than 10%.



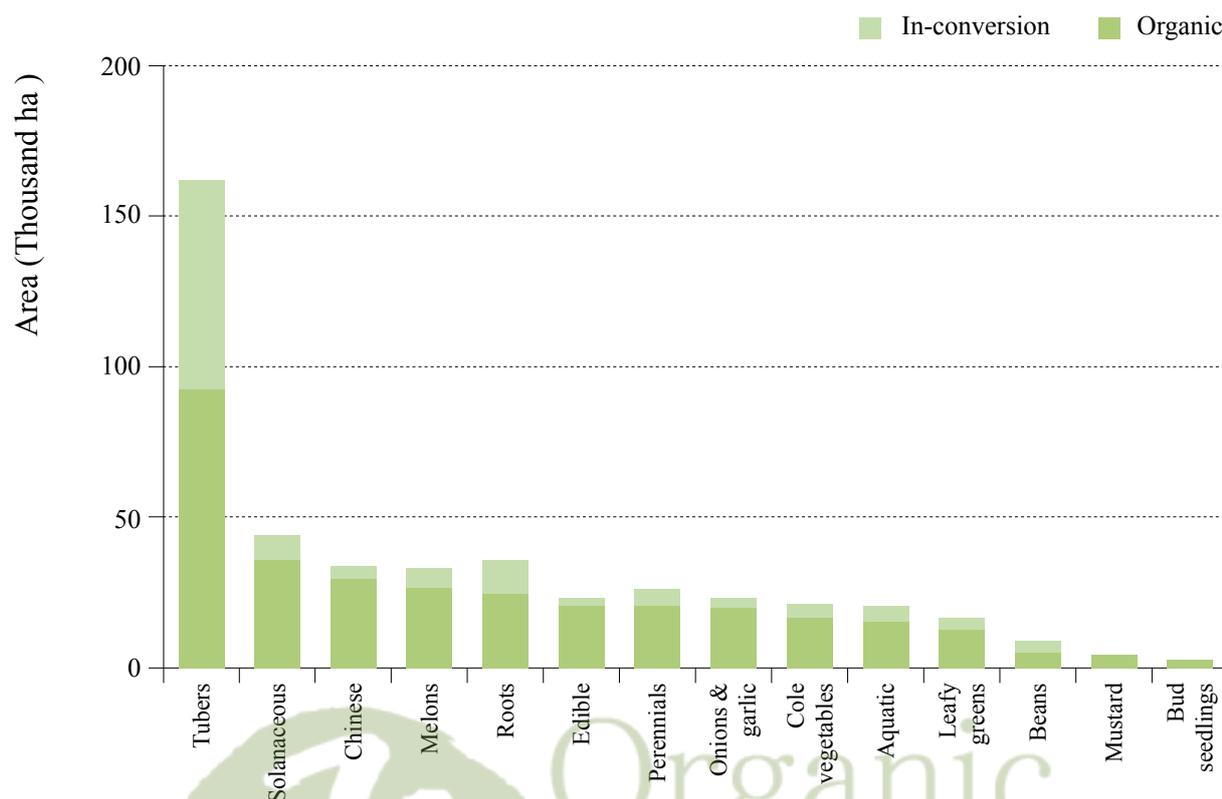


Figure 59: Production of organic vegetables in China 2015

The conversion to organic vegetables accounted for 24% in the total planting area and 27% in the total yield. The proportions of yield of conversion to organic mustard and tubers were both more than 40% in the total; the conversion to organic root vegetables accounted for 31% in its total yield while the conversion to organic solanaceous, melons and fresh aquatic vegetables accounted for 20% to 30% respectively, the conversion to organic beans, leafy greens and onions and garlic occupied 10% to 20% respectively, and the proportion of other categories was less than 10%.

Regional Distribution

Organic vegetables produced conformed with Chinese organic product standard were distributed in 30 provinces, cities and autonomous regions. Different to the organic cereal, the organic vegetables were distributed dispersedly in terms of area and yield. Seen from the production area, the organic vegetables planted in Sichuan province covered an area of 2900 hectares and accounted for 15% of the total, ranking first; the production area in Inner Mongolia, Guizhou, Shandong, Shanxi and Guangdong provinces was over 1000 hectares respectively. The production area of the six provinces mentioned above accounted for 57% of the total production area of organic vegetables. In terms of yield, Inner Mongolia accounted for 12% of the total with a yield of about 51.9 thousand tons, followed by Sichuan province (49,000 tons) and Guizhou province (39,000 tons); the yield of the above three provinces accounted for 32% of the total.

Development Trend

From 2009 to 2015, the production area of organic vegetables in China showed a trend of first rising then falling (Figure 60). From 2011 to 2013, the production area had on a slightly declining curve, but it started to decline rapidly after that. Compared with 2014, the production area in 2015 reduced by 9,000 hectares (31%), and perennials decreased by 5,000 hectares and tubers decreased by 3,000 hectares. The production area of leafy greens, onions and garlic, and bud seedlings increased slightly, and the leafy greens increased by 433 hectares.

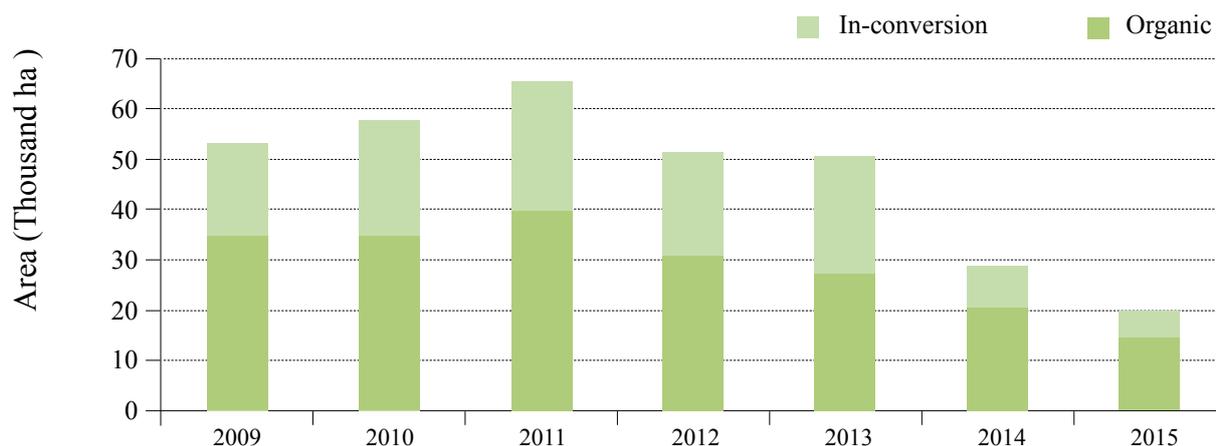


Figure 60: Changing trend of organic vegetable production area in China

Market of organic vegetables

At present, the majority of organic vegetables in China are exported to Europe, America and Japan by leading enterprises in the form of refrigerated storage and frozen processing, and the domestic market has formed centralized production areas of organic vegetables like Beijing, Shanghai and Shandong. It is found that in the early stage of organic food market development in China, it is the right choice to sell organic food in specialty stores, which reduces the middle chain of sales and the cost of organic food, and increases consumers' interest and purchasing power over organic food.

Many Chinese enterprises have obtained the organic certification in Europe, America and Japan, therefore the large-scale foreign vegetable trade corporations started to force the price of China's organic vegetables down and only few are exported at the price of organic vegetables while the majority at the price of conventional vegetables. In China, the organic vegetables are only available in the supermarkets in big cities and the direct stores of some companies with a price which is two to five times of the conventional vegetables. With respect to the sales, the consumers of organic vegetables are far less than that of conventional vegetables, and domestic consumption capacity is an important limiting factor. On the premise of current domestic income level, the economic foundation of large-scale consumption of organic vegetables, the formation of consumption habit and the improvement of organic identification label are to be further strengthened.

Analysis of production and logistics cost of organic vegetables

Analysis of planting cost of organic vegetables

In conventional agriculture, farmers only need to control the amount of chemical pesticides and fertilizers in accordance with the field area to ensure the harvest. However, the organic farming is different because farmers have to learn how to manage the entire ecosystem, use biotechnology to control pests, fertilize the land with animal waste and learn the planting patterns like inter cropping and crop rotation. During the production of organic vegetables, it takes several years to improve the soil condition in the earlier stage and no large-scale planting is practical during the process. In addition, the labor cost increases in the organic production and the organic fertilizers are more expensive than the conventional ones. The non-natural chemicals or substances, such as pesticides and fertilizers are not allowed in the planting of organic vegetables which should be naturally bred, grow in the natural environment and use no chemical additives in the processing. The production mode of organic farming determines the high-input and high-cost of organic food; the high standard of organic vegetable production leads to the high input cost. At present, the production

cost of organic vegetables mainly consists of production capitals and labor costs. Compared with the production of conventional vegetables, the cost of personnel is added to labor cost of organic vegetables. In addition, the employment and management cost also added in the production base, which accounts for nearly 49% of the total cost. The cost of production capitals includes the infrastructure construction, fertilizer, disease, pest and weed control. Currently, the organic vegetable production bases mainly adopt the greenhouse cultivation; in addition to the cost of infrastructure construction in the early stage, the costs of annual greenhouse maintenance, organic fertilizers and bio-pesticides are also included.

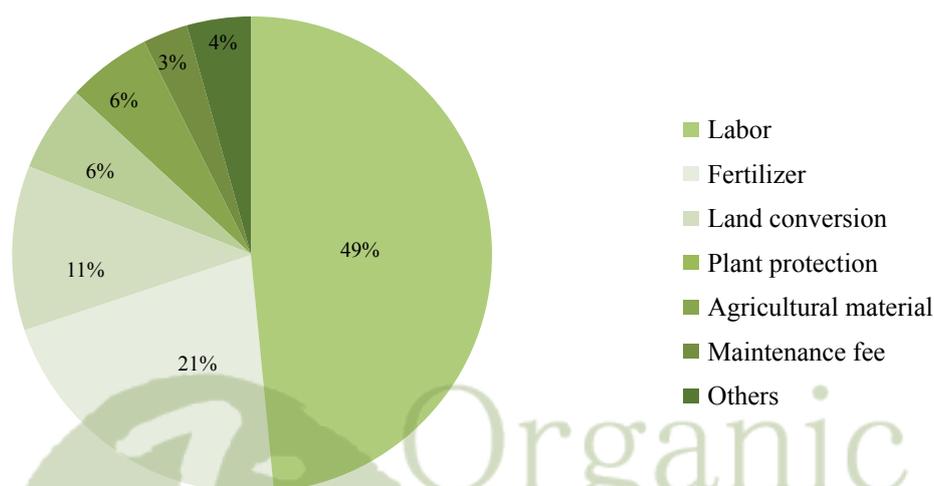


Figure 61: Analysis of planting cost of organic vegetables

Taking a farm in Shanghai as an example: the annual production cost per mu is RMB 17800 yuan, and the cost of labor, fertilizer, plant protection products, agricultural material products, land conversion, maintenance and others accounts for 49%, 21%, 6%, 6%, 11%, 3% and 4% respectively (Figure 61). It shows that the labor cost accounts for a large proportion in the production of organic vegetables.

Analysis of logistics cost of organic vegetables

In recent years, with the development of the economy, organic vegetables become increasingly popular among consumers. Since organic fruits and vegetables are easily damaged and perishable, its transportation is more difficult and riskier than the conventional food. In the transportation of organic vegetables, the cold-chain logistics is generally applied, which is widely used for the transportation of perishable food, including raw materials and products, thus is commonly known as the perishable food cold chain at home and abroad. The cold chain logistics requires the comprehensive consideration of production, transportation, sales, economic and technical factors and the coordination of relations between the factors to ensure the value and value addition of perishable and fresh food in processing, transportation and sales and fulfill the cold chain processing of whole process. The cold chain logistics patterns of organic vegetables mainly consist of self-support logistics, outsourcing logistics, and self-support & outsourcing mixed logistics.

Self-support cold chain logistics means the manufacturer owns the majority of or all resources to establish the cold chain logistics system, and the cold chain business is completed by the enterprise itself. Compared with the normal temperature logistics, the establishment of cold chain logistics system requires higher fix-capital input, including cold storage equipment, personnel, and advanced refrigeration technology. With the self-support cold chain, the enterprise can effectively use the original logistics assets to drive the capital turnover; train professional logistics personnel to obtain

logistics management experience; protect the enterprise's confidential information; promote the strategic integration of procurement, distribution and production; directly dominate the logistics assets, control the logistics functions and ensure the accurate and prompt supply; master control of customers, improve the service quality and maintain the long-term relationship with customers. However, the logistics is not separated, making it hard to calculate the logistics cost; the professional level of cold chain is low; risk of freight damage exists in storage, transportation and other logistics links; and it is of high investment and slow recovery.

Outsourcing cold chain logistics refers to the enterprise outsources all or part of its cold chain business to a professional cold chain logistics service provider (third party cold chain logistics enterprise) in the form of contract signed by the parties to confirm the relationship of commissioning and being commissioned and specify the rights and obligations of both parties. Compared with the self-support cold chain logistics, the outsourcing mode can save the fix-capital input of cold chain logistics system, increase the enterprise's floating capital, and allow the enterprise to focus on the core business and strengthen the core competence; reduce the fixed asset investment and the logistics cost and speed up the capital turnover; improve the service quality, create value for customers, and improve efficiency. However, the direct control of logistics is weakened, the profit of logistics is transferred to the third party, and it has the risks like employees' resistance, customer information disclosure and improper selection of third party logistics service provider.

It is found that the cost of self-support cold chain logistics is RMB 22 yuan per box while the cost of third party cold chain is RMB 18 yuan, which shows that the cost of self-support cold chain is much higher than that of third party.

Marketing channels of organic vegetables

Direct-sale stores

The direct-sale stores are generally set up around the upscale neighborhoods where the high-end groups inhabit, the staff accommodation areas of colleges and scientific research institutions, and the dormitory buildings of party and government organizations, enterprises and public institutions. Through the publicity and sales promotion, the sales personnel help consumers to understand the definition, production environment and production process of organic vegetables, so that they can consume clearly and eat safely. The direct-sale stores have to offer fresh vegetables every day, change the vegetable variety seasonally and keep about 15 kinds of organic vegetables every day on shelf to meet the needs of different consumers. Also, the store may regularly invite nutritional, vegetable and agricultural experts to hold the lecture on food nutrition and organic farming to increase the popularity of the store.

Supermarket counters

Many direct-sale vegetable counters in the supermarkets adopt the pattern of selling suburb vegetables, which reduces the intermediate links and could also benefit both manufacturers and consumers, becoming the main solution to the problem of "difficulty in selling and high price in buying". Organic vegetables sold in the supermarket are directly available to the general public at the price of one to two times of the conventional vegetables, which is of small profits and quick returns, this mode is a very good sales approach for large organic vegetable bases.

Membership sales

At present, organic vegetables are not universally recognized by consumers. Consumers are the well-educated families with high income and some understanding of organic vegetables. Therefore, a group of high-end members can be developed in the high-income communities and high consumption clubs to establish the distribution and delivery system which delivers 3 kg to 6 kg vegetables to the member twice or three times every week, change of the vegetable species is

required. In this way, the sales personnel can offer the one-on-one personalized service to create a better reputation, win more customers and achieve marketing success. If practical, members can be organized to experience the farming, watering, fertilizing, picking and fishing in the bases, which creates an opportunity to better communicate with customers, and promotes to stabilize and expand the customer group.

Hotel order sales and self-owned hotel sales

To improve the consumption level, some upscale hotels turn to the organic vegetables. In fact, the consumption of organic vegetables in upscale hotels makes the organic vegetables more likely to be accepted by the general public and enter into the ordinary families. The consumption varieties in hotels are relatively unitary, and the vegetables are widely popular among the general public, such as cucumber, string bean (cowpea), eggplant, green pepper, spinach, lettuce, leaf lettuce and pakchoi. The delicious dishes cooked with the organic agricultural products through chefs make consumers linger on, and this is a good consumption pattern which ensures the quality and freshness of ingredients and creates more profitable space. For example, the organic food experience store operated by Tony's Farm in Lujiazui adopts the organic green materials, sets up several multifunctional areas and aims to bring the freshest and most comprehensive organic life experience to people in pursuit of outstanding taste.

Picking experience

With the development of rural tourism, organic vegetable bases also utilize the good environment, diversified operations of planting and breeding, modern production equipment and variety collocation to attract the general public into the gardens to pick and consume. The picking, recreation, exhibition and experience areas are designed for consumers' experience.

Unit group purchasing and gift package sales

To ensure the quality safety of agricultural products in the canteens, some enterprises and units attaching importance to food safety choose the group purchasing, which is a good approach. During traditional festivals, the organic vegetables in gift package are popular. In the past, people would take fine tobacco or luxury wine to visit relatives and friends; now, they choose to bring a box or a basket of organic vegetables, which looks better. The gift vegetables generally include 8 to 10 rare varieties, 0.5 kg to 1.0 kg for each variety, covering root, tuber, leaf, flower and fruit sealed with vacuum film; under room temperature, the gift vegetables can be preserved for 5 to 8 days.

Online platform sales

The online marketing platform refers to the promotion and sales of products or services on websites. It is a sales pattern which takes internet as the platform, network resources as the tool, and internet users as the consumers. The advantages include: wide range of choices, customer development, communication and transaction through network. The sales and ordering process of online organic supermarket is generally as follows: for members: login– select goods – add to shopping cart - enter the settlement center - fill in the delivery information - submit order - confirm and pay - home delivery – sign for receipt; for non-members: register or login – select goods – add to shopping cart - enter the settlement center - fill in the delivery information and payment method - submit order - confirm and pay - home delivery – sign for receipt.

Taking a farm in Shanghai as an example, the group purchasing of companies is the main sales channel, accounting for 55.7% of the total sales, followed by the membership and supermarket sales which account for 31.1% and 8% respectively, and online sales, picking and experience store, and self-operated hotel sales account for about 5% respectively. The data varies in different regions.

Organic tea

Certification authorities and the number of certificates

According to the tea industry report and data from departments such as agriculture, commerce, customs and statistics², in 2015, the total size of China's tea production still increased steadily during the year and the area of tea gardens increased slightly with a declined growth rate. From 2000 to 2015, the total area of tea gardens in China increased from 1.089 million hectares to 2.877 million hectares, with an annual average growth of 116.5 thousand hectares; during the current decade, the total area of tea gardens increased by more than 100%, and the annual growth in 2015 was 117 thousand hectares. The tea-picking area increased from 0.88 million hectares to 2.08 million hectares, with an annual growth of 15.2 thousand hectares (7.22%) in 2015. Tea output continued to increase slightly in 2015, with dry raw tea output as 2.278 million tons, up by 8.9% (186 thousand tons) compared with 2014. The output value of tea increased moderately, with the output value of dry raw tea as RMB 151.92 billion, up by 12.6% (RMB 17.01 billion) compared with 2014 (the growth is 6.47% lower compared to that of 2014). Seen from the comparison of tea garden area changes in different provinces, tea garden area has increased obviously in those provinces that strive to develop tea industry such as Hubei, Guizhou, Shan xi and Sichuan, with the area of 310.7 thousand hectares, 459.4 thousand hectares, 143.9 thousand hectares and 321.1 thousands hectares respectively.

The tea output per unit area in China rose steadily in 2015. Calculated by picking area, the average yield per mu (1 mu=0.0667 hectares) of tea garden for picking stood at 67.2kg, increased by 1kg compared with 2014, and the output value per mu stood at RMB 4484.9, increased by RMB 215.2 (5%) compared with 2014. Calculated by area of tea garden, the average yield per mu stood at 52.8kg, increased by 2.3kg per mu compared with 2014, and the output value per mu stood at RMB 3,519.6, increased by RMB 262.2 (8%) compared with 2014. Except Hainan and Jiangsu provinces, benefits of other provinces (districts or cities) all rose. Structure of tea garden has been optimized, the proportion of the clonal improved-variety tea garden increased by 1.2% compared with 2014 to 56.5%; the area of pollution-free tea garden was at 1.848 million hectares which accounts for 64.22% of the total (4.96% higher than that of 2014), increased by 211.7 thousand hectares (12.94%) compared with 2014. The outputs of 6 main varieties all increased and the proportion of tea varieties was optimized, with proportions of green tea and oolong tea in the dry raw tea decreased while proportions of black tea, dark tea, white tea and yellow tea increased, showing that proportions of the 6 main varieties became more balanced.

The production price of tea began to fall and selling prices of various tea fluctuated during the year. The average price of famous high-quality tea was about RMB 172.9/kg while the average price of bulk tea stood at RMB 55.9/kg, decreased by about 5%, which is a little bit higher than that of the famous high-quality tea. Compared with 2014, the price of famous high-quality green tea in 50% of the production areas decreased by 2-5%, the price of bulk green tea in 55% of production areas decreased by 5-16% , the price of black tea in 70% of the production areas decreased by 6-15%, the price of oolong tea in all production areas decreased by 5-17% while the price of dark tea in all production areas increased. The net profit of purified tea enterprises has decreased for consecutive 3 years, with proportion of unprofitable enterprise keeping increasing. Overstock appeared in the representative wholesale markets.

The export volume of tea increased slightly but the export value maintained a continuous growth. In 2015 China's total tea export volume, export value and average export price was 325 thousand tons, USD1.38 billion and USD4.25/kg respectively, up by 7.8%, 8.6% and 0.7% respectively. In 2015, the export value reached to a new high and reversed the declining tendency in 2014 that export amounts of all varieties of tea decreased.

Organic tea production and processing

China’s organic tea development has maintained a good momentum. In 2015, the number of certificates issued for organic tea production was 1,122, which were issued to 1,067 enterprises. In 2015, the organic certified tea production area was 44,000 hectares, with a fresh leaf output of 77,000 tons.

Compared by both the number of certificates issued and the output of different organic tea (excluding herbal tea), the green tea accounted for 57% of the certificates issued and 55% of the total tea output. Besides, the increasing popularity of the black tea has led to the large increase in proportion of organic black tea certification, which accounted for 24% of the total, and the proportion of the organic black tea output increased from 9% to 19%. Also, the percentage of the organic dark tea output increased to 17%. Thanks to the diversified development in the tea market and proper marketing, proportion of various teas tended to balance (see Figure 62 and 63). Since the picking methods for dark tea differs from that of green tea and black tea, the proportion of the certificates (5%) and the proportion of the organic dark tea output (17%) doesn’t match with each other. Meanwhile, the proportion of the organic oolong tea (7%) is obviously lower than that of the oolong tea in total tea output. More key technical breakthroughs are still needed as there is a big difficulty in control the environmental factors, high seasonal demands for its raw materials and the pest control process.

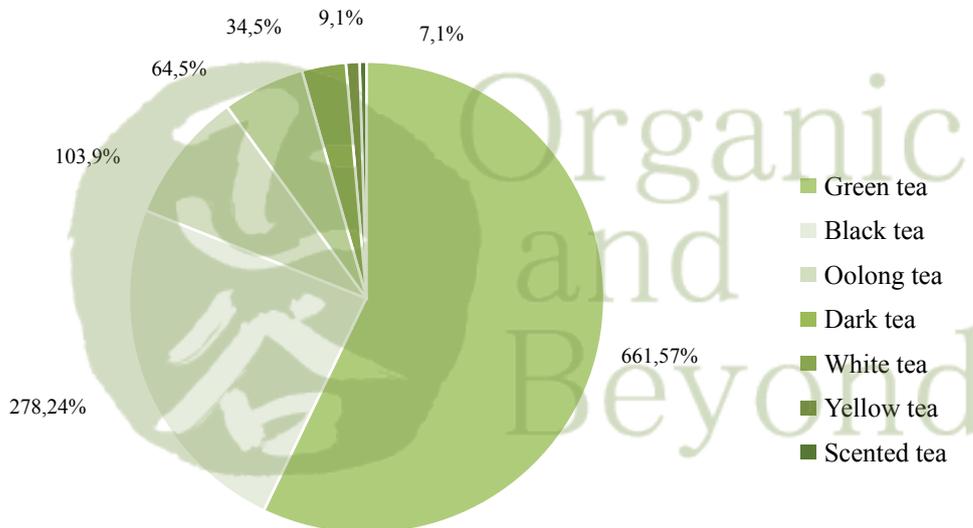


Figure 62: Proportions of certificates for various organic teas 2015 (%)

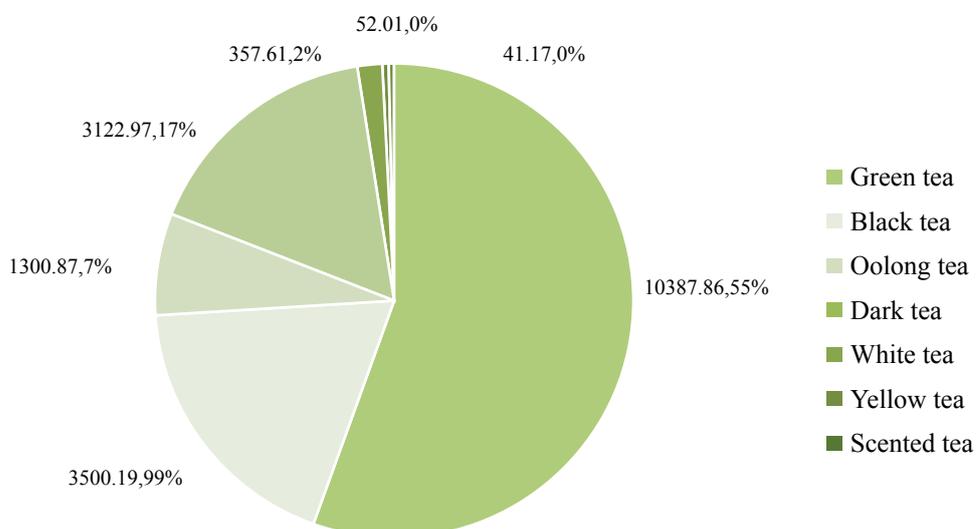


Figure 63: Proportions of outputs of various organic teas 2015 (% , ton)

Organic tea's production area distribution and development tendency

Seen from Figure 64 and 65, Yunnan, Sichuan, Zhejiang, Guangxi, Fujian and Hubei still accounted for a high proportion in organic tea's area and fresh leaf output. Please note that the area of organic tea garden in Guizhou province ranked no.5 in China, but its output was of low ranking, mainly because that in recent years new tea gardens in Guizhou have developed rapidly while many early-staged tea gardens have not entered the peak for tea picking.

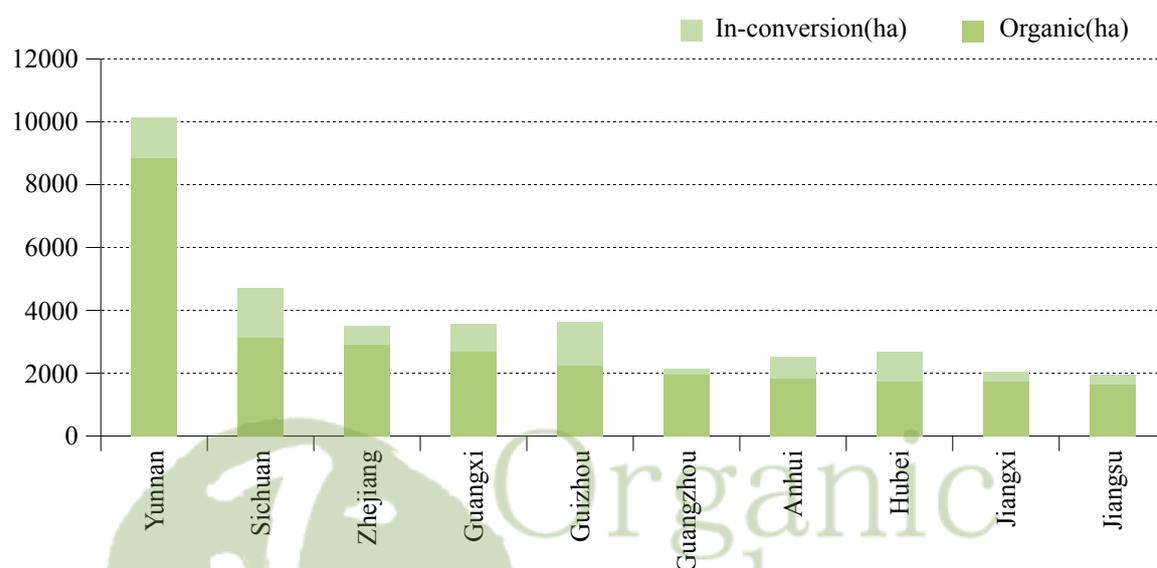


Figure 64: Areas of organic tea in different provinces 2015 (Top 10, excluding wild collection)

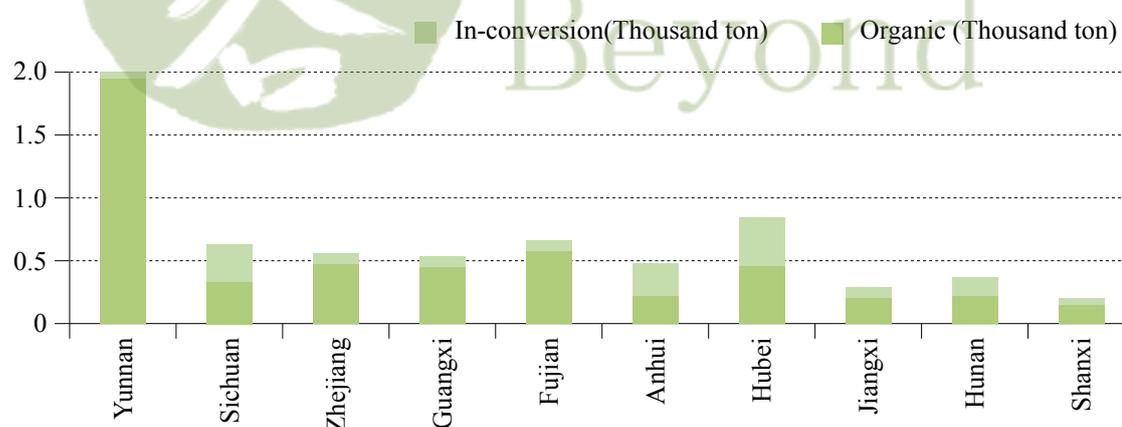


Figure 65: Organic tea fresh leaf outputs in different provinces 2015 (Top 10, excluding wild collection)

Seen from Figure 66, Except Hunan province and Guizhou province, the ranking of organic tea output and area are basically in line with the fresh leaf output in other provinces. In Hunan province, the dry tea output is high compared with its organic tea planting area and fresh leaf output, which is closely related to Hunan's large proportion of export of bulk green tea and dark tea. A large quantity of organic raw tea materials has entered into Hunan markets from nearby provinces with an obvious growth tendency for recent years. In Guizhou Province, in recent years new tea gardens have developed rapidly while many early-staged tea gardens have not entered the period for tea picking, with a low output recently.

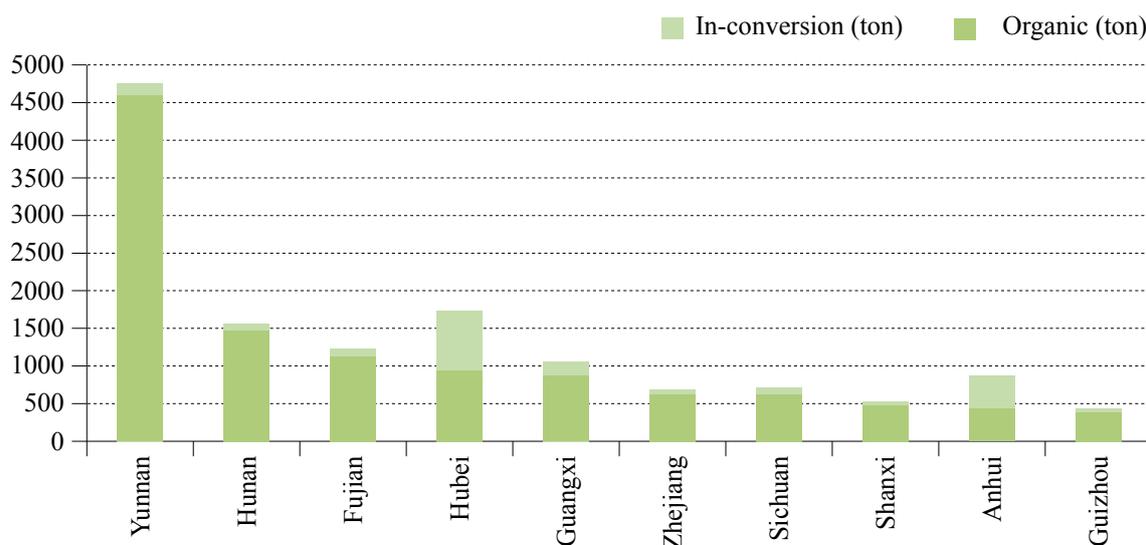


Figure 66: Outputs of organic dry tea and In-conversion dry tea in different provinces (Top 10)

In order to promote the healthy and steady development of China's organic industry, CNCA has carried out the project of "National Organic Product Certification Demonstration Region" since 2011 mainly in districts and counties with tea as their main crops, such as Chunan County of Zhejiang Province, Pujiang County and Qingchuan County of Sichuan Province, Fenggang County of Guizhou Province, Kaihua County of Zhejiang Province, Chibi City of Hubei Province, Zhaoping County of Guangxi Zhuang Autonomous Region, Naxi District of Luzhou City, Sichuan Province, Lei Shan County and Zheng'an County of Guizhou Province, and Pu'er City of Yunnan Province. In 2015, the "National Organic Product Certification Demonstration Region" project selected 9 counties and cities that took organic tea as their main product including Xichong County of Sichuan Province as the National Organic Product Certification Demonstration Area, among which such 5 demonstration areas as Pujiang County of Sichuan Province, Wuyi County of Zhejiang Province, Jiande City of Zhejiang Province, Anxi County of Fujian Province and Chibi City of Hubei Province.

With the support from local governments, organic tea industry in different provinces and regions has developed rapidly, and organic and ecological products have been used as a business card for the local publicity. In 2015, the Ministry of Environmental Protection issued the no.12 document-Announcement on the 5th and 1-3 Batch of National Organic Food Production Base Assessment and Review Results in 2014, according to the National Organic Food Production Base Assessment Management Regulations (HF [2013] no.135), assessed the 5th batch of 100 newly-applied national organic food production bases of 2014, checked the 1-3 batch of 68 production bases required for expiry review, and finally announced that 67 production bases of the 5th batch have passed the assessment, including 15 tea production bases (accounting for 22%), among which 1 is located in Jiangsu, 3 in Zhejiang, 2 in Jiangxi, 1 in Hubei, 1 in Guangxi, 2 in Sichuan, 4 in Guizhou and 1 in Yunnan, and 39 production bases of the 1-3 batch passed the review, including 3 tea production bases, among which 2 are located in Zhejiang and 1 in Guizhou.

Market and trade of organic tea

China's domestic organic tea market basically has the same situation as other organic agricultural products. Compared with that in the European Union, the United States and other Western countries, China's organic tea market has started late and developed slowly, and does not have enough

sophisticated production technology, standard system, industrial policy and market size, and so on.

Among main producing provinces of organic tea, the output values of dry tea in Yunnan, Fujian, Hubei, Guangxi, Zhejiang and Sichuan are relatively high compared with their rankings by area and output, and that is mainly because that a large proportion of famous high-quality organic green tea is produced in those provinces. Since export of bulk organic tea accounts for a large proportion, output value of organic dry tea in Hunan Province is relatively low.

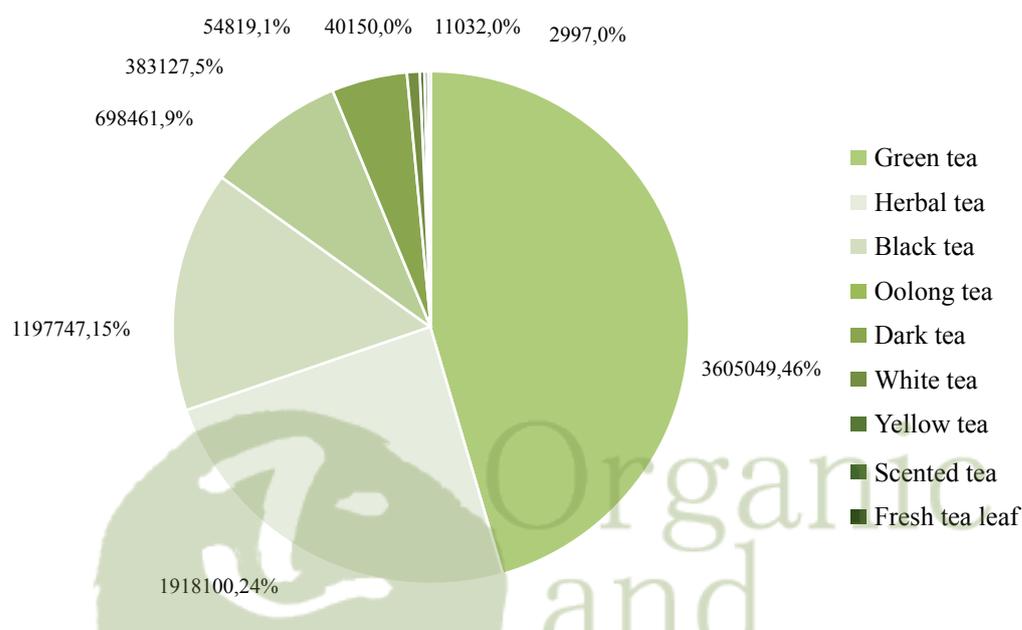


Figure 67: Quantities of organic codes for different teas 2015

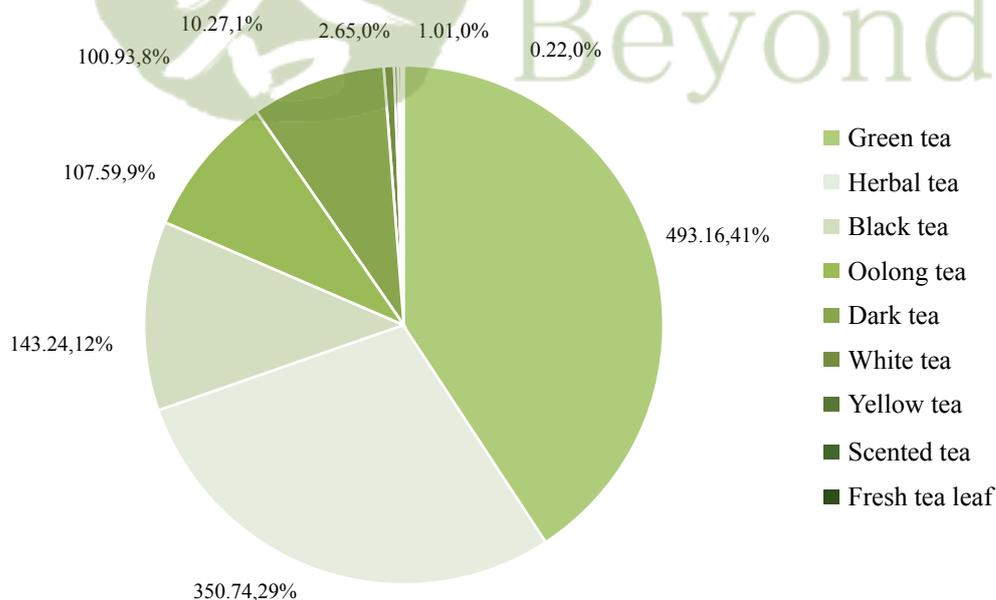


Figure 68: Sales quantity corresponding to quantities of organic codes for different teas 2015

It is shown in Figures 67 and 68 that compared by the number of organic code used and output of different tea, the varieties of tea applied for the most organic code during their sales are green tea, herbal tea, black tea, oolong tea and dark black tea, accounted for 99% of the total organic code used. Organic herbal tea contains a large variety of plant-derived products, so its label use and sales

quantity are both relatively high. The total quantity of tea sold with organic code label was 1,210 tons, accounted for nearly 5% of the total 25,300 tons of certified organic dry tea output (including tea in conversion period). It is clear that a large number of certified teas did not use organic code labels or were even not sold as organic tea at all. The reasons may include: 1) tea in conversion period accounted for a certain proportion but the label designed for the product in conversion period has been voided; 2) bulk tea, which has been exported as conventional tea, does not use organic label; 3) raw tea material, as an ingredient for processing or deep processing, does not need to use organic label; 4) some organic tea has obtained the dual organic certificates both domestically and abroad, so when exporting, it only needs to use required labels as demanded in different markets but no need to apply for China organic labels ; 5) some producers are not satisfied with the benefits from the organic tea, so no organic labels are applied for this reason.

Due to the influence of international mutual recognition, China's organic tea are exported conformed with required foreign regulations for organic products. Lacking the statistics of organic tea consumption, one could assume that if the annual output of organic tea could be totally cleared, then for recent years, the organic tea was distributed evenly to both domestic and international market, which was confirmed in the investigation conducted in 2011. At present, due to the incompatibility of China's domestic organic certification and international certification, some tea that has been organic certified in China could only be exported as "low pesticide residue" tea. In 2015 there was a foreign enterprise applying for China's organic certification.

Survey on organic tea consumption

In developed countries, 5% of the total agricultural product consumption was organic, but the organic agricultural product consumption in China was only 0.02% of the total agricultural product consumption, which indicates that China's organic industry are still in the initial stage. Organic tea, as China's first organic food certified for export, has established a better reputation in the international market after nearly 30 years of development. However, in domestic market, consumer's recognition level of organic tea is still relatively low. According to the survey, about 30% of the respondents have heard of organic tea, 5% of consumers have had organic tea while many respondents have no idea about organic tea, which maintained basically unchanged compared to the previous survey in 2011. But, in the consumer survey of special markets, such as Beijing, the frontier city with relatively higher organic tea consumption, the recognition level of organic tea is high, with more than 67% of respondents knowing organic tea and about 40% knowing about organic tea through media publicity.

Take Beijing for an example. According to the survey, scented tea accounted for the largest proportion of tea consumption, such as jasmine tea, chrysanthemum tea, honeysuckle tea, magnolia tea and chloranthus tea, occupying about 24% (about 3,000 ton) of total sales. It was followed by green tea such as Dragon Well, Biluochun and XinyangMaojian, accounted for 20.7% (about 2,500 tons). The next was Oolong tea such as Tieguanyin, Dahongpao and Huangjin Gui, accounting for 19.2% (2,200 tons). The tonic tea and organic tea occupied approximately 18% of the total tea consumption, about 2,000 tons. Others such as Yunnan Pu'er tea and Hubei dark tea, which were influenced by seasonal changes and consumption habits, accounted for a small proportion, but were preferred by certain consumer groups. Even in Beijing, a city has such a large tea sales market with high cognition of organic tea, the proportions of the sales of various organic teas were quite different from those of conventional tea, especially the scented tea. Due to the impact of raw material production technology, organic flower raw materials are not sufficient, so the outputs and sales of organic scented tea accounted for a rather small proportion in organic tea. During organic tea purchase, consumers will be disappointed if they select organic tea based on their preference

for conventional tea. In the new organic tea market supply structure, in order to successfully attract consumers, it is necessary to conduct new analysis and planning in terms of target market, target population, price positioning, marketing channels.

Selection of target market and population

The development of domestic organic tea market should be based on the selection of specific consumer groups. The cognition and acceptance degree of organic tea is related to consumer's understanding of the "organic" conception. Therefore, learning from a rather matured market such as that of Japan, Europe and the US, the group of people with certain knowledge level and advocating healthy and active life can be selected as the target consumer group as the first step in organic tea market development. For example, LOHAS can be identified as one of the target consumer groups. In China, the LOHAS is of a small population aged mainly from 25-45, who highly praises being friendly to environmental, focuses on sustainable development in aspects of economy, environment and energy, pursues healthy lifestyle and their own development, and always insists on ecological consumption. In developed countries such as Europe and the US, LOHAS has a large population; for example, in the United States, LOHAS accounted for nearly one-tenth of the population while in the Western Europe this proportion is as high as more than one-third. With the development of China's economy and culture, the proportion of LOHAS will gradually increase. In addition, seen from the mainstream consumer products in the domestic market, high-grade famous tea had occupied a considerable proportion in the gift tea market and the main consumers of high-grade famous tea are leaders with relatively higher position. Although influenced by the new anti-corruption policies in China, the direct consumption of these people has declined significantly, but the consumption ability of this group of people still cannot be ignored.

Target cities shall be well selected for domestic organic tea market development. Currently, it is a marketing move with quick returns and low cost to select frontier cities such as Beijing, Shanghai, Guangzhou and Shenzhen that are with high market cognition degree and concentrated target consumer groups.

According to the investigation results, compared with price, brand, service, packaging and promotional discount, target consumers are mostly concerned about the quality of the tea. More respondents (about 33%) give priority to quality while purchasing organic tea, followed by the environment of origin and price. Organic tea product development should implement differentiated strategies based on different target consumer groups. Organic famous high-quality tea products can highlight "pure hand-making" and not only the good appearance but also internal quality of the product should be taken into considerations. The organic tea targeting at LOHAS should set up the selling points of "environment-friendly and good taste" and product's functional characteristic should be shifted from focus on external appearance to focus on internal quality. To achieve the change from hand-made tea to machine-manufacturing tea, which not only helps reduce costs but also facilitates the implementation of standardized management, it might become the mainstream of organic tea development. At the same time, since LOHAS is not only concerned about the tea itself but also concerned about the surrounding environment, the conception of "organic" cannot be ignored in the later-stage of product development; for example, the development of biodegradable, non-polluting or reusable external packing, whose design style should meet the aesthetic taste of the target population.

Price positioning

According to the investigation results of the international market, the retail price of organic food such as fruits and vegetables is 1-3 times more than that of non-organic foods while the price of organic tea is 30-50% higher than that of conventional tea. Seen from investigation results of the

domestic market, compared with the international market, domestic organic agricultural product has more space for price rising. Therefore, when making organic tea price strategy, price positioning should consider the product strategy mentioned above and the consumption ability of target market. In view of the special characteristics of China's tea consumption that for a long period of time, market price of high-end non-organic famous tea is quite high, if price of high-end organic famous tea would be set accordingly and may further consider a higher production cost, then it will have no choice but being sold as a luxury goods. Under the new policy for anti-corruption, this approach can't be adopted. According to the investigation results targeting at mass consumption market, 60% of consumers will take the price of organic tea as the second major factor affecting their purchase decisions, more than 30% of consumers say that the reason why they do not want to buy organic tea is the higher price. Moreover, many more consumers gave their straightforward opinions, that is, they would not buy organic tea even if the price is just a little bit higher than that of the conventional tea, only when they are of the same price, they will choose organic tea without any hesitation.

It is necessary for the organic tea market to establish reasonable and clear organic tea pricing system and provide target groups with credible, reliable, easy to understand and persuasive cost performances of product based on their demands. Any pricing method that focuses on a short-term benefits will pose vicious cycle for organic tea industry's development.

Sales channel and marketing model

Along with the development of various commercial forms, currently organic agricultural products are sold mainly through organic products retailer, exclusive counter in supermarket, food market, organic farm and online platform. Large supermarkets such as Carrefour, Wal-Mart and Metro have also established special areas for organic products. At present, the sales channel for organic tea is diversified in China. Some new channels such as direct sales and network selling through Microblog and WeChat have been established, and some traditional channels such as tea exclusive stores as well as teahouse and tearoom in some developed areas are also optional channels for organic tea selling.

According to the investigation results, consumer's purchasing channels are different in tea production areas and sales areas. In the production areas, consumers are more willing to purchase tea directly from tea farmers because they can judge the quality of the tea by visiting the tea garden and taking part in processing of the tea and they could also taste on site before purchasing. For consumers in the sales areas, they prefer to purchase from tea exclusive stores because it's more convenient. Through multiple contacts with stakeholders in the organic tea's supply chain in the market, it is found that if distributors overly abate the purchasing price of organic tea for their own short-term profit, the enthusiasm of tea farmers will be hurt and the product quality will be negatively impacted in the long run. On the other hand, if producers overemphasize on the production cost but ignore the profit margin of distributors, then there won't be sufficient driving force for future market development. It is adverse to the development of China's organic tea industry, if any of the situations happened as mentioned above. In short, either for the traditional channels for tea sales or the emerging channels for organic sea sales, supply chain management and reasonable profit distribution throughout the supply chain are quite critical. Therefore, it is the basis for orderly development of organic tea industry to integrate the supply chain and earn the win-win cooperation.

Experiential consumption and allotment by membership are welcomed by some consumer groups. Nowadays people in China are more and more concerned about the food safety and with the increasing interest of road-trip, many consumers are more willing to buy the products that they could see the production process with their own eyes. This has promoted the prosperity of tour and

picking on farms. Even if the price of tea picking in tea gardens is more expensive than the market sales price and the quality of tea products picked may be worse than those sold in specialty stores, the picking process itself could be an add on value for the products, so many consumers are still willing to pay for it. The biggest characteristic of the so-called experiential consumption is to focus more on the surplus value of the products rather than the price and the demand. Customers tend to make purchasing decisions by their experience and how they could participate in the production process. It is safe to say that experiential consumption is no longer a single commodity exchange behavior, but a complex behavior also integrate the product display and better service. For example, consumers are no longer limited to tea tasting, but have more expectations of tea culture and even tea tourism; when tasting a variety of tea, they also want to know about the producing area of the tea and related tea cultures, especially that nowadays multiple values such as fitness, health keeping and travel have been integrated into people's consumption conception. Some tea farms have carried out the membership activity of participating in cultivation of a piece of tea garden, and people who have participated in cultivating a certain size of tea garden for years will obtain tea products from the tea garden. Besides, log cabins are provided in some tea gardens for accommodation and members can work and get accommodation in the tea garden in different seasons, experiencing fun in it.

Challenges and the development trends of China's organic tea industry

Challenges for China's organic tea industry

In 2015, China's macroeconomic operation was further consolidated, with a slower economic growth and lower domestic demand. In such case, all traditional industries were faced with difficulties of varying degrees. Compared with other agricultural product industries, the adjustment range of tea industry was limited, and favorable and unfavorable factors coexisted during stimuli conversion. Among the three major demands, consumption growth was steady but there were still some worries about it, investment growth slowed down, and export rebounded. Challenges existing in the tea production also covered the organic tea, and the sustainable development problems of organic agriculture caused by regional development imbalance, low market cognition, unstable policy, no breakthrough for the key technology and international cognition system also existed for organic tea. It is safe to say that compared with non-organic tea, the development of the organic tea industry under the new normal is facing more challenges as follows.

(1) There is a discrepancy between organic tea production and market demand, and compared with non-organic tea, the structure of supply side of organic tea is unreasonable. First of all, the distribution of organic tea is not balanced, especially the oolong tea and Pu'er tea with the largest demands from online platforms and the black tea with the highest demand growth rate, which are of low output and limited varieties. China's organic black tea is quite competitive in the international tea market, but its export volume is limited due to the cost factor. For recent years market demand for the white tea and yellow tea that are of limited varieties has grown rapidly, but the variety of organic white tea and yellow tea is even less. Moreover, in the market there is almost no supply of organic scented tea preferred and demanded by young and old consumers who concern about their health.

(2) The price scissors effect of organic tea production is obvious. On the one hand, restricted by multiple factors especially plant disease management and weed infestation, the production cost of organic tea continues to increase largely. On the other hand, the market response for recent years shows that the price of organic tea is not obviously higher compared with conventional tea, but the maintenance cost is high and it is affected by the overall market situation. Many producers believe that organic tea will dominate in the future, and some of them have combined their own brands with organic tea to create hit products in the organic industry and tea industry. However, other producers

think that application of organic certificate is of little value or interest because their applications of organic certification has not been supported by local governments compared with other regions but attracted governments' more supervisions, so in their opinions, organic certification is not indispensable and sometimes becomes a trouble for them.

(3) Organic tea market falls behind organic tea production and processing. Investigation data showed that in 2014 the organic tea and tea in conversion period output value totaled RMB 1.4 billion and in 2015 the domestic sales of tea accounted for about 75% market shares of the total tea sales in China. So, organic tea still has a big market potential and the development of China's organic tea industry shall be further promoted. At present, most of the tea merchants take a wait-and-see attitude towards the organic tea market environment. In such situation, a large proportion of tea merchants have begun to shrink their investments and costs, and adjusted their business strategy to stock less organic tea and sell more. Besides, some tea merchants have gradually innovated and promoted their sales models, converted from traditional sales to E-commerce sales, from the traditional single sales to the comprehensive service including knowledge popularization and tea product customization, which is under the restriction of organic tea product management and supervision.

Analysis of organic tea industry's development tendency under the new normal

Organic tea is a pioneer of China's organic agriculture and the development of this industry is relatively fast, which is mainly attributed to 1) government's supporting by established related policies that largely encouraged the producers; 2) the research on productive technology and establishment of standard system has promoted the development of organic tea industry; 3) the certification and promotion of professional certification bodies has regulated organic tea market and management. However, sustainable development of China's organic tea industry is still impacted by many adverse factors such as imbalanced regional development, lack of market cognition, unstable policy, no breakthrough for key technology and international recognition system.

Under the current condition of advocating low-carbon agriculture, emphasizing on food safety and continuous growth of domestic and international market demands, China's organic tea industry is facing enormous opportunities and challenges. China's organic tea industry should learn foreign advanced experience on organic agriculture, give full play to our various advantages and develop based on the actual condition of China. Minister Han Changfu of Ministry of Agriculture gave an important written instruction on the tea industry in December 2015: We should have this ambition to prosper China's tea industry within the 13th five-year plan, with its output value to be doubled, to greatly help farmers increase their income and get rid of poverty; also, the development of China's organic tea planting has been highlighted.

Combined with China's organic tea developing status, it is suggested that government shall establish and implement reasonable and effective industrial policies, strengthen science and technology support and carry out research, demonstration and promotion of key technologies for organic tea production; enhance basic data investigation and highlight overall planning; integrate resources and establish organic tea strategic alliance; increase publicity and raise people's awareness of organic tea; strengthen the supervision and management of organic tea certification and market; actively conduct international cooperation to win international recognition and promote the sustained, healthy and balanced development of China's organic tea industry.

Organic dairy product

Organic raw milk and processing of organic dairy products

Development of organic raw milk and processing of organic dairy products

With the improvement of people's living standard, China's dairy industry has made great progress and achieved huge development, which has become an important industry in the national economy. On this basis, along with people's continuous concern about the ecological environment and food safety and health, the consumption of organic products has further increased. Similarly, the market demand for organic raw milk and dairy products has also showed a developing trend.

According to the data statistics of China's food and agricultural product certification information system, in 2015, the total output of China's domestically-produced certified organic raw milk stood at 766.7 thousand tons, involving cow's milk and goat's milk, and the annual output of cow's milk stood at 762.6 thousand tons, accounted for an absolute majority of 99.47%, and the annual output of goat's milk stood at 4,100 tons. Only cow's milk has obtained the conversion to organic product certificate for raw milk and the certified output in 2015 stood at 1,100 tons.

In terms of dairy product processing, according to Organic Product Certification Directory, organic dairy products can be divided into three categories: processed liquid milk or cream (including cow's milk, butter and cream), fermented milk (including yoghurt and cheese) and milk powder products (including milk powder, whey powder and lactose). According to the data statistics of China's food and agricultural product certification information system, in 2015, the total output of China's domestically-produced certified organic dairy products stood at 498.6 thousand tons, and the processed liquid milk or cream ranked No. 1 with an annual output of 580 thousand tons, followed by fermented milk and milk powder products which have 70 thousand tons and 82 thousand tons respectively.

Regional distribution

(1) Regional distribution of dairy cattle's breeding

According to the data statistics of China's food and agricultural product certification information system, in 2015, there were 11 provinces (municipalities and autonomous regions) in China engaged in organic dairy cattle breeding, and the certified organic dairy cattle totaled 980,219 including 909,972 cattle used for both milking and meat and 70,247 dairy cattle. The large-scale organic dairy cattle breeding enterprises in China were mainly concentrated in Qinghai Province, Inner Mongolia Autonomous Region, Gansu Province, Xinjiang Uygur Autonomous Region and other traditional pasturing areas, as well as Sichuan Province, Heilongjiang Province and other big agricultural provinces. Seen from the breeding scale (number of cows), the top five were Qinghai Province (874,252, accounted for 89.19%), Inner Mongolia Autonomous Region (40,914, accounted for 4.17%), Gansu Province (32,690, accounted for 3.33%), Xinjiang Uygur Autonomous Region (17,519, accounted for 1.79%) and Heilongjiang Province (5,616, 0.57%).

For species of breeding, taking advantage of the plateau geographical condition, Qinghai Province and Gansu Province mainly breed dual-purpose yak which is of low milk production and fed mainly for meat while the traditional Holstein dairy cattle with a high milk production is mainly fed in other regions.

(2) Regional distribution of organic raw milk (Cow's milk)

Data from China's food and agricultural product certification information system showed that the breeding scale (number of cows) of Qinghai Province ranked No. 1 with absolute advantage, but it mainly bred dual-purpose yak which was of low milk production, so in 2015 the certified organic milk output only stood at 120 tons. China's largest producing area for organic raw milk is Inner Mongolia Autonomous Region, whose annual organic raw milk (cow's milk) output stood at 683.1 thousand tons in 2015, accounted for 89.1% of the total output in China. Inner Mongolia Autonomous Region has broad natural pastures and production bases for forage grass and green

fodders, as well as the suitable climate conditions for dairy cattle's growth, development and production, which forms the natural advantages for organic dairy cattle breeding. In recent years, the traditional agricultural provinces in northern China, including Liaoning Province, Shandong Province, Xinjiang Uygur Autonomous Region and Heilongjiang Province have developed rapidly in terms of organic dairy cattle breeding scale, taking advantage of being the main producing areas for the traditional feedstuff such as soybean and maize. Their outputs of organic raw milk (cow's milk) in 2015 stood at 26.7 thousand tons, 10.6 thousand tons, 10.3 thousand tons and 8,700 tons respectively, accounting for 3.48%, 1.38%, 1.35% and 1.14% of the total output of China respectively. The output of other regions was 27.3 thousand tons, accounting for 3.56% of the total (refer to Figure 69).



Figure 69: Percentage of certified organic cow's milk of different regions in 2015



Figure 70: Regional distribution of China's organic dairy products in 2015

Inner Mongolia Autonomous Region is the largest organic dairy product producing area in China, and its output of organic dairy product in 2015 stood at 455.8 thousand tons, accounted for 91.42% of the total dairy product output of China in 2015. It was followed by Heilongjiang Province, Shandong Province and Liaoning Province, with their organic dairy product output of 14.5 thousand tons, 9,800 tons and 8,300 tons respectively, accounted for 2.91%, 1.96% and 1.66% of the total respectively. The output of other regions was 10.3 thousand tons, accounted for 2.06% (refer to Figure 70).

Enterprises which have applied certification for their organic milk powder products were distributed dispersedly mainly in Shanghai, Sichuan, Shandong, Xinjiang Uygur Autonomous Region, Hunan, Shanxi, Heilongjiang and Hong Kong Special Administrative Region, none of which has an annual production scale of over 1,000 tons. Inner Mongolia Autonomous Region is the largest dairy production base in China, but there is no enterprise engaged in organic milk powder processing in it.

China's organic dairy production is mainly distributed in superior regions of traditional animal husbandry, especially Inner Mongolia Autonomous Region, which is still in dominant place and includes China's largest organic milk base and organic dairy product processing plant. The northeastern region, relying on its advantage of fodder production and processing, has developed its scale of organic milk cattle breeding strongly while other regions are weak, showing that the regional distribution of organic dairy product in China is still unbalanced.

Development tendency of organic raw milk and organic dairy product processing

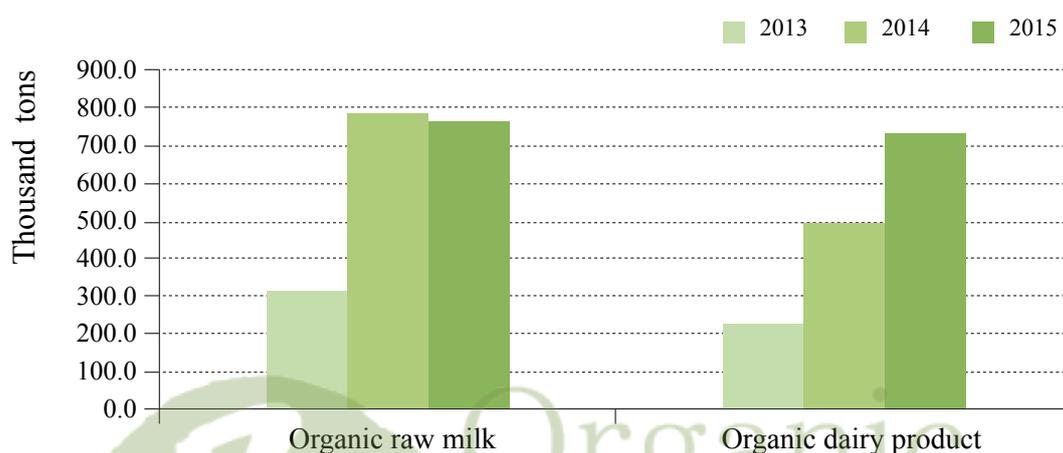


Figure 71: Production of organic raw milk and organic dairy product in 2013-2015

Figure 71 shows the development condition of organic raw milk and organic dairy product in China from 2013-2015, from which we can see that compared with 2013, China's organic raw milk and organic dairy product had an eruptive growth with the output doubled in 2014. However, in 2015, the rising momentum slowed down; the growth of organic raw milk was limited while the organic dairy product increased by around 40%.

Market and trade of organic dairy products

Domestic market and sales of organic dairy products

The organic dairy products market in China continued to develop rapidly in 2015. The output of certified products processed was 733 thousand tons and the output value was RMB 33.7 billion (the real value was supposed to be higher), accounted for 38.9% of the processed products. The top three outputs of the certified products were respectively UHT milk, fermented milk and whey powder while the top three of the output value were UHT milk, fermented milk and powdered milk (Table 19). Compared with 2014, the output of certified liquid milk (UHT milk, pasteurized milk and fermented milk) increased by 28.4% from 451 thousand tons to 579 thousand tons.

Table 19: Outputs and corresponding output values of organic certified dairy products

Product Category	Output (Thousand ton)	Output Value (RMB million)
UHT milk	5655	27994.9
Pasteurized milk	10.3	76.56
Fermented milk	66.4	3505.12

Production and Trade of Organic Rice, Vegetables, Tea and Dairy Products

Cheese	2.2	12.98
Butter	0.2	None
Whey powder	48	0.1
Lactose	3.9	None
Cream	2.9	2.89
Milk powder	33.6	2059.38
Total	733	33651.93

Table 20: Output and corresponding sales of organic dairy products using the organic label (including organic code)

Product Category	Filing Amount of Organic Label (RMB billion)	Weight Distributed (Thousand ton)	Sales (RMB billion)
UHT milk	1.0123	263.7	7.08
Pasteurized milk	0.0064	4.9	0.23
Milk powder	0.0143	8.7	4.57
Fermented milk	0.1420	30.8	0.75
Cheese	0.0005	0.07	0.03
Non-cow milk dairy products	0.0001	0.03	0.05
Total	1.1755	308.1	12.72

Those products that were filed for using the organic label could be considered as already sold and the amount generally represented the actual sales. In Table 20, organic dairy products that used organic label were analyzed: the total output of organic dairy products filed for using organic label was 308 thousand tons (sales in China, including the imported organic dairy products) and the corresponding filing amount is 1.18 billion (labels), accounted for 78.1% of the total. Among them, the UHT milk ranked top in the sales, followed by fermented milk and milk powder; the sales of pasteurized milk and cheese were relatively low.

When it comes to the category, the market of organic dairy products is basically consistent with the conventional dairy products market, however the pasteurized milk, with a large volume of sales in conventional dairy products, has a lower proportion in the organic market, which is mainly caused by the regional distribution of organic milk sources, price, shelf life and low developmental level of cold-chain logistics.

The organic milk sources in China are mainly located in the north, especially Inner Mongolia, Hebei and Heilongjiang. Comparatively speaking, these regions are more abundant of dairy products like pasteurized milk and has lower price, and therefore consumers are more price-sensitive, leading to the lower acceptance of organic pasteurized milk. As a result, it is difficult for production enterprises to promote the pasteurized milk products with high cost and short shelf life. In South China where the consumption ability is stronger, however, no adequate supply of pasteurized milk is available due to the limit of milk source. Most of the organic pasteurized milk enterprises generally offer the medium and short-distance regional supply, and only a few enterprises provide the north-south sales in the form of cold-chain air transportation, which further increases the cost and makes it hard for the substantial growth of sales volume.

Butter and whey powder could serve as both raw material for food industry and retail products, which currently have no retail in China, so no record of organic label filing could be found. The organic dairy products available on market are generally liquid milk (including fermented milk) and milk powder.

According to the Quality Report on China Dairy Industry 2015 based on NBS (National Bureau of Statistics) and Customs data, the domestic market scale of dairy products in 2015 was about RMB 337.02 billion (sum of domestic enterprise output and imported volume) and the market share of organic dairy products was about 3.8%. From the global perspective, the proportions of organic milk and dairy products in dairy market of Germany and France, which were the second and third largest organic markets in the world, were 8.6% (2014) and 3.2% (2013) respectively (FiBL& IFOAM, 2016).

The sales of different categories of dairy products were calculated based on the general price of organic dairy products available on the market. Since the shelf life of some products is up to 24 months and most of the products sold throughout two calendar years, the statistics cannot represent the actual sales in 2015 and is only for reference (see Table 6-2-2 for the calculation results). The three categories with top sales were respectively UHT milk (RMB 7.08 billion), milk powder (RMB 4.57 billion) and fermented milk (RMB 0.23 billion), and the total sales in 2015 for reference was about RMB 12.72 billion, accounted for 21.1% of the total sales of organic products.

According to the 2016 Organic Industry Survey Data of Organic Trade Association (OTA), the total sales of organic food and beverage in the United States, the world's largest organic market, in 2015 was about \$39.7 billion, and the sales of organic dairy products was about \$6.0 billion, accounted for 15.1%. The 2014 data showed that the sales of domestic organic dairy products in Australia accounted for 22% of all organic dairy products (FiBL & IFOAM, 2016). Compared with other types of organic products, China's organic dairy products are more comparable with foreign countries in terms of market and sales.

From the perspective of domestic sales channels, just like any other products, e-commerce has become a more and more important sales channel for dairy products. According to the China representative of Organic Valley, 60% of its sales in China were completed via e-commerce channel. However, for the general public, supermarkets were still the most important and common channel to purchase organic dairy products. With the increasing popularity of organic dairy products among consumers, more and more domestic enterprises join in the production of organic dairy products. Among the traditional top three enterprises of dairy industry in China, only Bright Dairy has no organic dairy products, Yili and Mengniu already have their own organic dairy products; currently, the certified products of Yili are sterilized milk and acidified milk while the certified dairy products of Mengniu include sterilized milk, modified milk and infant formula milk powder. Yili also commissions the foreign dairy company to manufacture the organic dairy products and launches its organic sterilized milk. In addition, other dairy companies in China, such as Ausnutria, Beingmate,

HuiShan, Synutra and Wondersun, also launch their own organic infant formula milk powder; Junlebao and Sanyuan launch the organic sterilized milk products.

Overseas certification and import trade of China's organic dairy products

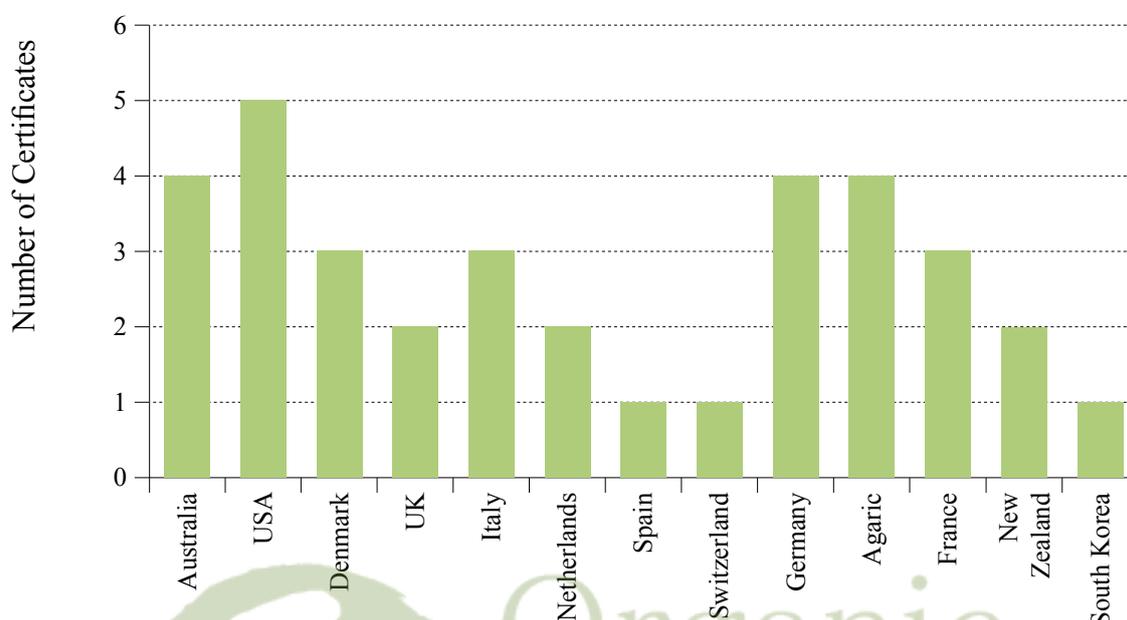


Figure 72: Country and number of production enterprises of imported organic dairy products

Due to the rapid development of China's organic market and the consumers' personalized demand for product, more and more imported organic products enter the Chinese market, and the organic dairy product is an important part. By the end of December 2015, a total of 196 overseas certified companies have passed China's organic products certification and got certificates. At the same time, some dairy companies in China, such as Yili, Synutra and Ausnutria, have consigned overseas enterprises for product production and 67 certificates have been issued to those which have passed the China's organic dairy products certification (the information of consigned foreign processing enterprises of domestic companies might be incomplete as only those with products available on the market are included). The production enterprises were distributed in Italy, Denmark, Australia, Austria, USA, Germany, New Zealand, Netherlands, France, Spain, the UK, South Korea and Switzerland (Figure 72).

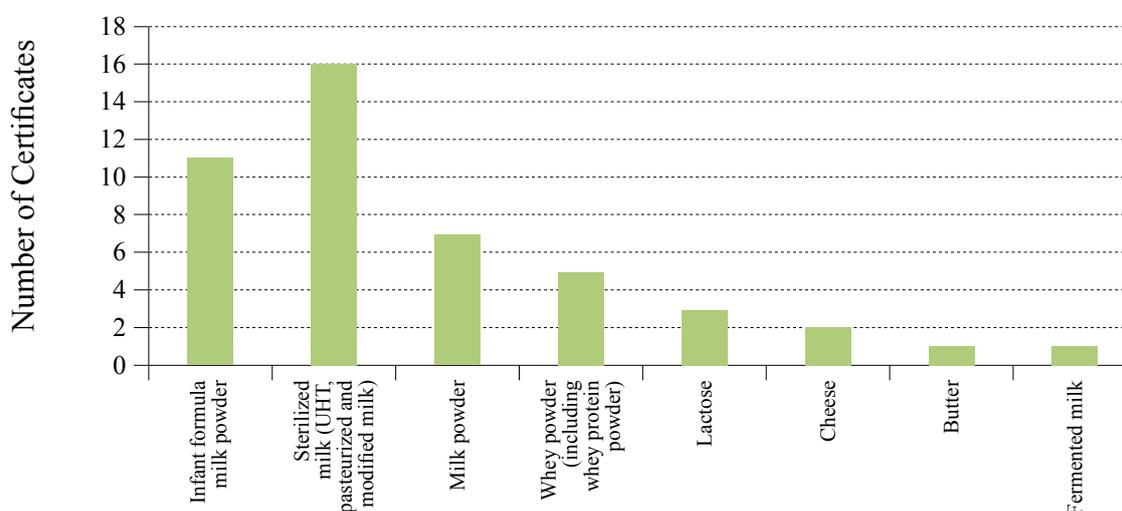


Figure 73: Category of imported organic dairy products

As shown in Figure 73, EU was the main source of imported organic dairy products and 23 certified production enterprises were located in EU, accounted for more than 50%. This could result from the increased organic dairy cattle breeding of EU in recent years, which led to the excess milk sources, and meanwhile the demand of Chinese market for organic dairy products increased rapidly. From the perspective of product distribution, sterilized milk ranked top with 16 production enterprises; infant formula milk powder ranked second with 11 enterprises; other milk powders ranked third with 7 enterprises. The category distribution of imported organic dairy products was similar to that of the domestic; the UHT milk and milk powder obtained the most certificates. The number of enterprises engaged in the production of organic infant formula milk powder was remarkable. By the end of 2015, 76 enterprises have registered with CNCA for infant formula milk powder and 11 enterprises have passed the organic certification, accounting for 15%. See Figure 73 for the distribution of specific certified products.

Among all organic dairy products, organic infant formula could be the most complicated category that involved multiple ingredients such as milk powder, lactose, whey powder and plant oil. With the efforts of Chinese certification bodies, enterprises that produced ingredients used in organic infant formula could obtain organic certification separately. As a result, the number of organic certified enterprises on the value chain increased dramatically, which reduced the cost and shortened the time period of the certification for foreign organic infant formula production companies and domestic organic infant formula production companies also benefited from such practice. From the perspective of ingredients, the insufficient certification amount of organic lactose and organic whey powder (whey protein powder) required in the organic infant formula milk powder production has limited the development of organic infant formula industry and most of the organic lactose and whey powder (whey protein powder) in domestic infant formula milk powder production also depend on imports. From the perspective of trade, milk powder (including infant formula) and liquid milk products ranked top in terms of overseas dairy products certification amount and output value. See Table 4-5 for the specific output and output value of certified products.

Table 21: Output and output value of certified imported organic dairy products

Product	Output (Tons)	Output Value (RMB million)
Milk powder (including whey powder, whey protein powder and lactose)	71645.2	1560.7
Processed liquid milk and cream (including butter)	82078.7	162.16
Fermented milk	2880.1	9.52

Although no official statistics is available, the information from certification bodies shows that foreign enterprises have started exporting Chinese organic certified dairy ingredients to China for the processing of organic foods in China, which result from: 1. quality and technology advantages; 2. competitive price of some imported organic ingredients; 3. improving the selling point of products; 4. some ingredients are difficult to obtain in China, such as lactose and whey powder/ whey protein powder required in the production of infant formula milk powder. The domestic processing enterprises that purchase ingredients from overseas include those engaged in dairy products processing, and infant food, pastry and beverage manufacturers.

Since China's organic product certification system does not recognize other organic product certification systems, the certification of dairy products has to cover the whole supply chain from farm to processing plant; the certification types may include planting, breeding and processing. At the same time, the certification authorities find many differences between Chinese and foreign organic dairy farming and processing standards during the certification, laying a foundation for improving the system of domestic organic product certification standards and the future mutual recognition with other organic standards in the world. In the process of certification, the differences between domestic and overseas breeding conditions and breeding patterns make the inspection on forage planting places, pastures, additives and quality management system more difficult than those in China, because it requires inspectors (currently, most of the CCAA registered qualification inspectors that qualified for overseas inspection are in China) to have throughout knowledge on world dairy industry, related planting, breeding and processing process, foreign language skills and the HR arrangements of certification bodies.

From a policy making and inspection perspective, a number of rules and standards implemented by AQSIQ and SFDA in recent years have an effect on the imported organic dairy products. Since May 1, 2014, AQSIQ has started the import registration for the overseas dairy production enterprises, which is divided into the registrations of infant formula dairy production enterprises and non-infant formula dairy production enterprises. To better supervise the certified enterprises, the organic product certificate number of enterprises producing the organic products is marked in the enterprise list published by CNCA. On June 8, 2016, SFDA issued Administrative Measures for Formula Registration of Infant Formula Milk Powder to comprehensively start the milk formula registration system, which imposed restrictions on the formula number of plant processing. The Measures applies to all products sold in mainland China, including the imported organic infant formula milk powder. Overseas organic infant milk powder production enterprises shall register their formula according to the relevant requirements. By the end of December 2015, the number of currently effective imported brands of organic infant formula milk powder which have passed China's organic product certification is 22. Due to the long shelf life of the products, some of them produced by the enterprises no longer holding organic certification are still available on the market and the number of such brands is about 25. The above policies already or will have an impact on the number of imported organic infant formula milk powder.

Survey of organic dairy products consumption

To better understand consumers' consumption of organic dairy products, the survey was carried out through WeChat group and WeChat moments repost, and a total of 248 valid questionnaires were recovered, showing that 84.68% of consumers once purchased the organic dairy products, which was higher than the data 77.5% given in Chapter 3.3: Survey of Organic Product Consumption in China of this book. Among those who have purchased, 50.4% were women. Through these valid questionnaires, a basic understanding of customers, product category and influencing factors in the organic dairy products consumption was obtained.

Understanding of differences between organic and conventional dairy products

The top five differences between organic dairy products and conventional dairy products believed by customers are respectively 'no use of hormones and antibiotics' (52.2%), 'no use of GMOs and related technologies' (56.9%), 'organic feeds' (52.2%), and 'no use of additives' (41.9%). The result above shows that consumers have a certain understanding of the basic organic concept, but a limited understanding of organic breeding, processing requirements and animal welfare. Guiding consumers to understand the meaning of organic dairy products is beneficial to further improve the consumption of organic dairy products and promote the development of organic dairy industry.

Consumption habits of organic dairy products

In terms of purchasing frequency of organic dairy products, a majority of respondents purchase several times every year, accounting for 61.69% (Figure 74). Compared with the consumption frequency of dairy products in consumers' daily life, the popularity rate of organic dairy products is still low. The survey of purchase value shows that most of the respondents spend less than RMB 1000 annually. In combination with the frequency, it can be concluded that the consumers are still in the tentative stage for consumption of organic dairy products in daily life. The cross-over analysis of frequency and family income shows that the respondents whose monthly family income is between RMB 10000 and RMB 20,000 purchase more frequently than other groups (Figure 75).

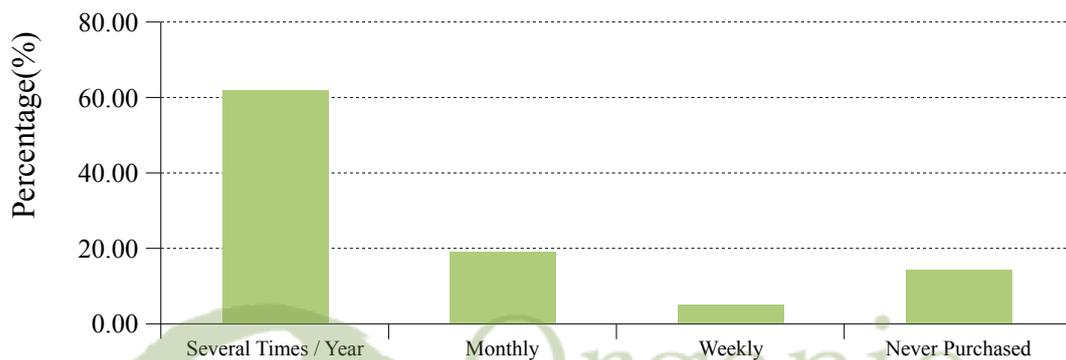


Figure 74: Respondents' frequency of purchasing organic dairy products

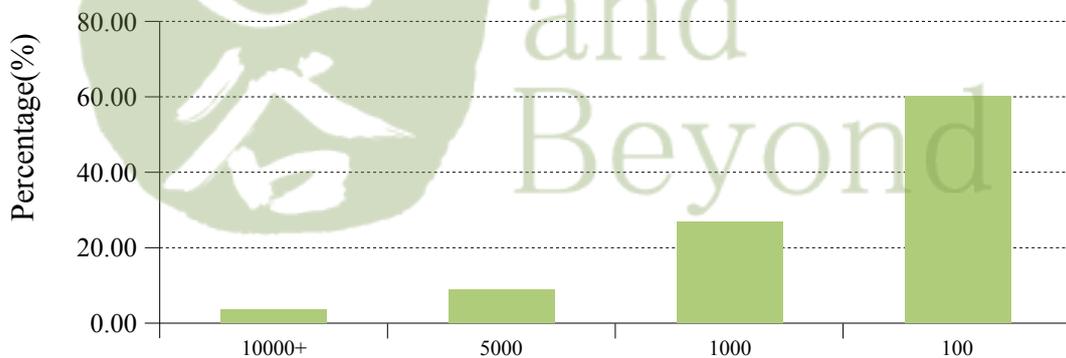


Figure 75: Annual amount of respondents' family purchasing organic dairy products

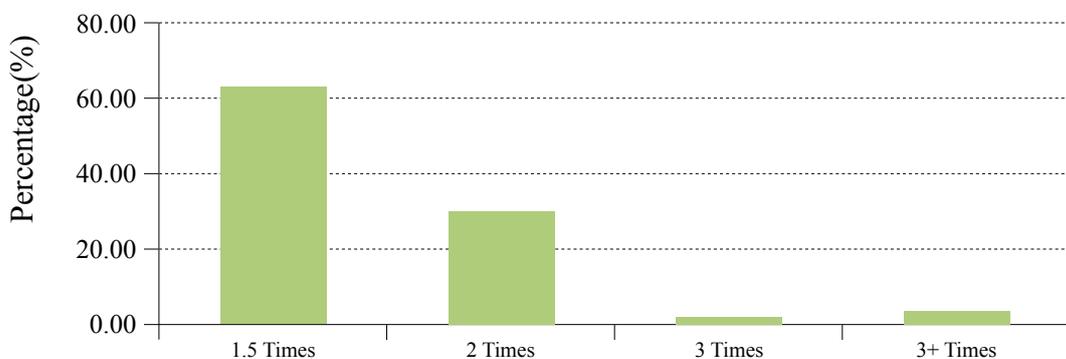


Figure 76: Reasonable price of organic dairy products compared to conventional dairy products believed by respondents

Most consumers can accept the price difference of 1.5 times and 94.36% of consumers can accept the price difference within 2 times (Figure 76). Regardless of the per-capital income and whether have children or not, senior citizens and kids are the most concerned, for whom the respondents are willing to buy organic dairy products (Figure 77).

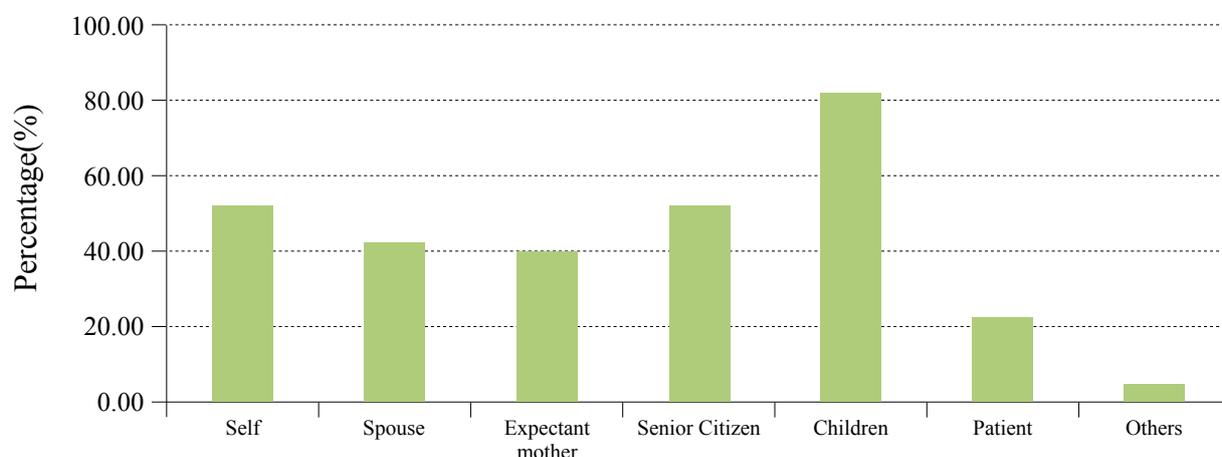


Figure 77: Purchasing organic dairy products for whom

The offline marketing channels, such as traditional supermarket (62.9%), high-end food supermarket (34.27%) and organic products specialty store (26.61%) are still the main channels of organic products consumption; the e-commerce consumption only accounts for 29.03% (Figure 78). However, many organic products agents indicate that e-commerce has become the most important channel of their organic products marketing. Currently, consumers tend to buy organic dairy products incidentally when they are shopping conventional foods, but for organic foods agents or manufacturers, it's important for them to find the targeting consumer groups to reduce the cost (e.g. rent for the shop) and therefore e-commerce is their best choice.

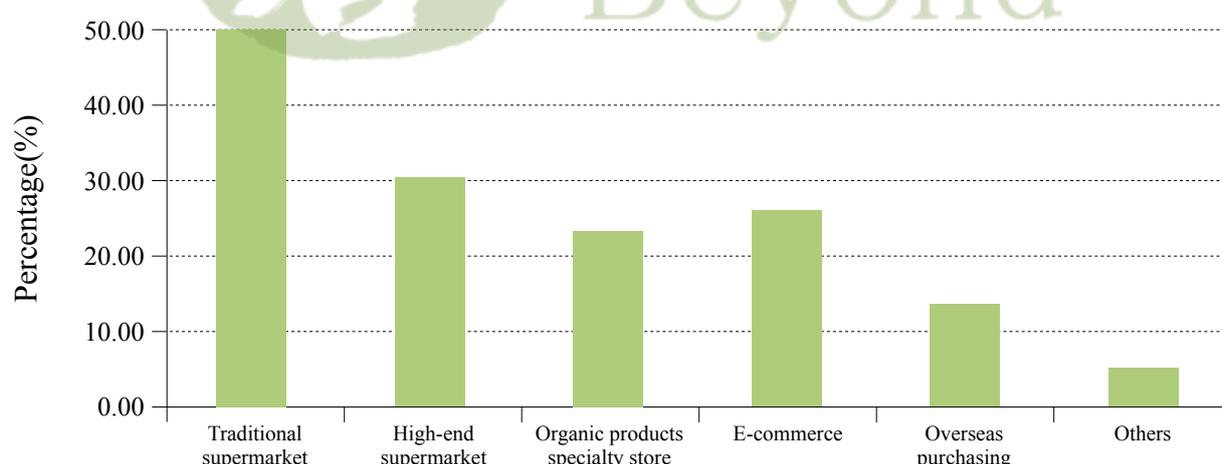


Figure 78: Channels of purchasing organic dairy products

Consumers' preferences for organic dairy products

To reduce the difficulty of consumers using the accurate names of different dairy products, the dairy names UHT milk (60.1%), yoghurt (46.8%) and pasteurized milk (41.9%) rank top three in the dairy products purchased by consumers; those who have previously purchased organic pasteurized milk account for 41.94% (Figure 78), which is much higher relative to its market share, and it may be because the respondents can't properly distinguish the products. In addition, a survey of the products

that consumers are willing to try shows organic yogurt and organic pasteurized milk rank top in the consumption intention, accounting for 52.8% and 41.5% respectively (Figure 79), which indicates organic yogurt and organic pasteurized milk still have a great development space in the future.



Figure 79: Organic dairy products the respondents purchased and willing to purchase

Factors influencing the consumption of organic dairy products

Price, brand and use of additives are the most important factors influencing the consumption of organic dairy products. The cross-over analysis of price and family income shows the price sensitivity decreases with the increase of family income, but price is always the primary factor influencing purchase decision except the respondents with a monthly family income over RMB 50000. The brand value of organic products also gets the high recognition of consumers and ranks second in the consumption determinants. 42.95% of the consumers still have a concern against the additive issue which ranks third in the determinants. Corresponding to the price sensitivity of respondents, consumers are most unsatisfied with the price of organic dairy products. Only 26.03% of the respondents worry about the quality of organic dairy products but 68.95% prefer to the imported organic dairy products, showing that the position of domestic organic dairy products in the minds of consumers is to be improved.

Challenges and development trends of China's organic dairy industry

Challenges of China's organic dairy industry

(1) Low confidence of domestic consumers in organic dairy products

Since the melamine was found in Sanlu's milk powder, the relevant departments have strengthened the detection and supervision of illegal prohibited substances in dairy products and got remarkable achievements; in particular, the banned additives like melamine are controlled within the 100% monitoring range but Chinese consumers still doubt about the quality of domestic dairy. Although the organic dairy products are produced, certified and managed by strictly conforming to the organic standards, quite a few domestic consumers choose the foreign dairy products due to their doubt about domestic dairy products and limited understanding of organic products, thus shrinking the consumer market of organic dairy products. Taking infant formula milk powder for an example, as of December 24, 2014, according to the official website of AQSIQ, 204 overseas infant milk powder

production enterprises registered with AQSIQ and the number of brands registered was up to 255, which meant 255 foreign infant milk powder brands were sold in China. Undoubtedly, the foreign milk powder brands which have passed the strictest new regulations in history will further intensify the market competition of domestic enterprises.

(2) Much higher production cost of domestic organic dairy products

China is the third largest milk producer with a immature dairy industry. Due to the low dairy breeding scale in China (only 1/3 of the pastures have the scale of over 100 livestock on hand and the annual output per unit is as low as about 5 tons on average), the low degree of mechanization, the incomplete social service system and other reasons, production cost in China is much higher than abroad. The annual output of some large pastures in Beijing and Shanghai has broken through 8 tons, but the feeding cost is high and the actual profit is low. As a result, the dairy cattle breeding in China no longer has the cost advantage.

Consumers pay attention to quality and price when choosing the products. When quality could be guaranteed, the price of product is an important decisive factor. The high cost of organic dairy products in China mainly due to the high cost of organic dairy cattle breeding, making the organic milk lack of price competitiveness internationally. At present, the high protein feeds conforming to the organic standards, such as soybean, alfalfa and Chinese wild rye, are in severe shortage both in variety and quantity no matter in large-scale farming or small and medium-scale farming; a series of factors, such as poor feeding management, insufficient improvement of medium and small scale breeding variety and the increase of epidemic prevention cost, lead to the high systemic cost. In particular, the cost of organic dairy cattle breeding is much higher than that of the conventional breeding.

(3) Impact brought by the opening of dairy market cannot be ignored

As China continues to integrate into the global economy, the huge impact of foreign products is brought to the dairy industry in China. In recent years, the traditional dominant dairy countries like EU, New Zealand and Australia have exported increasingly amount of dairy products to China. Taking liquid milk for an example, products from 27 countries have entered the Chinese market in terms of UHT milk and the number of brands reached 100. From the perspective of quantity, the cumulative growth of imported liquid milk was up to 800% in five years from 2010 to 2014. The proportion of imported Chinese organically certified liquid milk gradually increases and the imported organic liquid milk strongly impacts the high-end liquid milk market in China, i.e. the organic liquid milk market. The dairy enterprises in China mainly maintain the profitability level of the industry with the high interests of liquid milk, especially high-end liquid milk. If a large amount of foreign organic liquid milk with lower price enters the Chinese market, the dairy processing industry in China will be impacted and the organic dairy industry in China will be influenced severely.

Development opportunities for China's organic dairy industry

(1) Increasing demand for organic dairy products in China

According to 2015 statistics, the number of China's dairy cows reached up to 15.94 million, and the output of milk was at the level of 40 million to 45 million tons, ranking third in the world. The per capita dairy occupancy increased from less than 1 kg in 1978 to 34 kg in 2015. The per capita annual consumption of dairy products was 105 kg in the world while in the developed countries, it was 300 kg. Although the per capita dairy consumption in China has increased to 34 kg, it is only one third of the world's average and less than one tenth of the developed countries.

Since the Reform and Opening-up, the national economy has grown rapidly. China's GDP in 2015

was RMB 67.6708 trillion and ranked second in the world. With the growth of national economy, Chinese people's life has been greatly improved. On the basis of satisfying the general consumption, people have higher demands for consumption and the consumer market of dairy products grows rapidly.

Dairy products gradually have changed from high-end consumption to mass consumption. As the dairy consumption increases year by year, the growth rate of organic dairy products is more remarkable. With the consumption upgrade, the high-end dairy products are no longer for the minority; more and more consumers turn attention to and intend to buy organic dairy products. The understanding of consumers on organic concept is more and more clear. At the very beginning, consumers believe 'organic' dairy is the synonym for 'expensive' dairy but now they begin to accept the health, safety, original ecology concepts and better taste of organic dairy products.

Due to the rapid economic growth of China, the greatly improved livelihood of Chinese people and the gradual acceptance of organic concept, the consumer group of organic dairy products in China is formed gradually. As the numbers of organic dairy enterprises and products increase rapidly, the quality, taste and packaging of products go better, making the organic dairy products more popular with consumers. Because of the safety and green concept, organic dairy products become the first choice of baby, young lady, urban white-collar class, young people born in 1980s and 1990s and some groups, which creates a great opportunity for the development of organic dairy industry in China.

(2) Increased food safety consciousness of consumers

The Melamine incident greatly arouses consumers' concern about dairy safety. Senior citizens, children and pregnant women are the main consumers of dairy products, and the group has a greater demand for food safety. Senior citizens are getting weak, children are in the growth stage and pregnant women have to pay more attention to food safety. In view of their special life stages, the groups focus more on organic dairy products in the dairy consumption.

As the high-end products, organic dairy products bring awareness of reliable safety to consumers and generally higher nutritional quality than other dairy categories. For example, the organic milk has higher butter-fat percentage and protein content than the general milk. Due to the safety and excellent quality, organic dairy products greatly satisfy the demands of senior citizens, children, pregnant women and high-end consumers, and obtain huge development opportunities.

(3) Large-scale enterprises turn to organic dairy products

Throughout the development of domestic dairy industry in recent years, liquid milk product is one of the better developed fields in many segments and the considerable level has been reached in terms of production and sales volume, and market scale. With the rapid development of liquid milk products, the industry also faces problems like serious product homogeneity and low price. How to find the breakthrough of liquid milk development? With the general competition pattern of dairy industry in China, many dairy enterprises take on the differentiation route and aim at the high-end dairy market, hoping to steadily expand the market through high-end dairy products while satisfying the needs of consumers and benefit both economically and reputedly. The high-end dairy products develop powerfully in the domestic UHT milk market and maintain the rapid growth in successive years. Many high-end liquid milk products, including Mengniu Deluxe, Yili Satine, Sanyuan ESL, Bright UBEST, have obtained certain market recognition and maintained the consistent growth in sales. The development of high-end dairy products shows that the pace of structural adjustment and upgrading of liquid milk products in China is accelerating. On this basis, organic milk mainly claiming 'no pesticide residues, no antibiotics, no hormones and no additions' gets the opportunities for development. Compared with developed dairy markets like Europe and USA, the organic dairy

market in China has not yet entered the explosive growth stage, but some enterprises, including the major dairy companies, have targeted the huge market potential contained in the organic dairy products which have shown the strong development momentum and broad prospects.



Status of Supervision and Management of Organic Product Certification 2015

Administrative special supervision and inspection of organic product certification

In 2015, the special supervision and inspection was under the unified deployment of Registration Management Department of CNCA, with the implementation of relevant work entrusted to China National Accreditation Service for Conformity Assessment (CNAS) and China Certification & Accreditation Institute (CCAI). The special supervision and inspection of 2015 includes four parts: special supervision and inspection of certified production enterprises, supervision and inspection of organic product certification demonstration areas, site inspection of certification bodies and special supervision and spot check of organic products.

Special supervision and inspection of certified production enterprises

From July to November, 2015, CNCA organized special supervisions and inspections of 89 certified organic product enterprises in Fujian Province, Hebei Province, Henan Province, Shanxi Province and Inner Mongolia Autonomous Region. The scope of inspection covered plant production, livestock and poultry farming, aquaculture and organic product processing, etc.

The inspection was carried out with two methods, namely joint inspection undertaken with the inspection teams from certification bodies in the form of on-site witness inspection and independent inspection undertaken by the special supervision and inspection teams in the form of on-site witness inspection. This was the first attempt to work with the inspection teams from certification bodies to carry out on-site witness inspection. The types of witness inspection covered initial certification, re-certification, non-routine and supplementary audit (inspection) and so on. On-site witness inspection was implemented to 69 certified enterprises, accounting for 77.5% of the total certified enterprises. The remaining 20 certified enterprises were subject to the independent on-site inspection by the special supervision and inspection team.

A total of 281 problems were found during the special supervision and inspection, including 198 problems related to certified enterprises and 83 problems with the management and inspection implementation process of the certification bodies that were reflected by certified enterprises. Among the certified organic product enterprises involved in this inspection, those with organic production and operation in line with standard requirements accounted for 93.2% of the total certified enterprises. 4 certified enterprises had quite serious problems, accounting for 15 % of the enterprises inspected. Table 6-1 details the numbers and proportions of the enterprises and problems involved in the special supervision and inspection of each region.

Table 22: Results of supervision and inspection of certified organic products/tea enterprises

Area	Shanxi Province	Fujian Province	Hebei Province	Inner Mongolia Autonomous Region	Henan Province	Total
Enterprise Inspected	15(17%)	15(17%)	27(30%)	17(19%)	15(17%)	89
Problem Found	67(34%)	24(12%)	71(36%)	13(7%)	23(12%)	198

Inspection of organic product certification demonstration areas

From July to August 2015, CNCA sent a total of four inspection teams to carry out inspection of 22 organic product manufacturing enterprises certified by 7 certification bodies in 4 organic product certification demonstration creation areas, namely Zepu County and Yumin County of Xinjiang Uygur Autonomous Region and Liangzihu District and Xuan'en County of Hubei Province, with the scope of inspection covering plant production, livestock and poultry farming, aquaculture, processing and so on.

Overall situation of the inspections in Xuan'en County and Liangzihu District of Ezhou City, Hubei Province

Xuan'en County of Hubei Province is located in the Dabie Mountains and boasts good natural environment. Organic tea is a main organic product here. From September 14 to 16, 2015, inspection teams consisting of relevant personnel of Hubei Bureau of Quality and Technical Supervision carried out supervision and inspection to 7 certified enterprises in Xuan'en City Organic Certification Demonstration Area, under the cooperation of CNAS experts. The results of the inspection showed that these certified enterprises could follow the requirements of organic product certification during production and processing and use the identification of organic product in a standard way.

The organic product certification of Liangzihu District of Ezhou, Hubei Province involved plant cultivation, edible fungus production, aquaculture, processing and so on. From September 14 to 16, 2015, inspection teams consisting of relevant personnel of Hubei Bureau of Quality and Technical Supervision carried out supervision and inspection to 8 certified enterprises in Liangzihu District Organic Certification Demonstration Area, under the cooperation of CNAS experts. The inspection involved such certified products as aquaculture, Ganoderma lucidum production, vermicelli processing, vegetables, rice, etc. The results of the inspection showed that these certified enterprises basically could follow the requirements of organic product certification during production and processing and use the identification of organic product in a standard way.

Overall situation of the inspections in Zepu County and Yumin County of Xinjiang Uygur Autonomous Region

Located in Kashgar City of Xinjiang Autonomous Region, Zepu County is a traditional big husbandry area of Xinjiang. The local county party committee and county government determined fruits, especially Xinjiang jujube, as the direction of local agricultural development, and divided 100,000 mu, suitable for organic agriculture production, out of 200,000 mu of jujube production area in the country as an organic jujube production area. For the sake of protecting the planting base, the county government provides for that no investment for the factory or facility that may form pollution is allowed within 3 kilometers of the organic production base. On September 10, 2015, the CIQ of Xinjiang Autonomous Region organized relevant personnel of its Kashgar Branch and Tarbagatay Branch to form inspection teams to carry out supervision and inspection to 3 enterprises in Zepu Organic Certification Demonstration Area, under the cooperation of CNAS experts. The certified products involved in the inspections include the production and processing of jujubes and the production of apples. The results of the inspection showed that the certified jujube enterprises basically could follow the requirements of organic product certification during production and processing and use the identification of organic product in a standard way.

Located in Tarbagatay City of Xinjiang Autonomous Region, Yumin County is a national poverty-stricken county, taking the production of agriculture and animal husbandry as the main industries. The county party committee and county government determined local Bashbay sheep and safflower-wheat rotation as the direction of local agriculture and animal husbandry development and regarded

the pastures under the county's jurisdiction as an organic sheep breeding base and the cultivated land under the county's jurisdiction as the safflower production base. The leading group for organic industry development, headed by the first deputy county chief, with jurisdiction over Bashbay Sheep Association and Yumin Safflower Association, is specially responsible for the production and processing of organic products in the county. From September 12 to 13, 2015, the CIQ of Xinjiang Autonomous Region organized relevant personnel of its Kashgar Branch and Tarbagatay Branch to form inspection teams to carry out supervision and inspection to 4 enterprises in Yumin Organic Certification Demonstration Area, under the cooperation of CNAS experts. The certified products involved in the inspections include sheep breeding, the planting of safflower and other plants and cattle and sheep product processing. The results of the inspection showed that the certified enterprises basically could follow the requirements of organic product certification during production and processing.

Special supervision and inspection of organic product certification bodies

The special supervision and inspection focused on the inspection of the organic product certification bodies that had not been accredited. The contents of the inspection included whether the basic conditions of the certification bodies met the requirements of the implementation rules, whether the certification bodies had issued certificates exceeding the stipulated quantity and the scope of certification before not obtaining relevant supporting documents, whether they had prepared the audit instructions in accordance with the rules of implementation, whether the basis and capacity of the inspectors of the certification bodies met the relevant requirements, whether the process of certification was in line with the requirements of the implementation rules, whether the certification information was timely submitted, etc. The results of the on-site inspection showed that the bodies inspected mainly had the following problems:

(1) Fail to control the domestic publicity of enterprises obtaining foreign organic certifications; (2) Fail to prove its compliance with relevant capacities specified in GB/T 27065 within the specified time and issue more than 5 certificates out of the approved scope of certification; (3) Issue the "investment certification used for organic agricultural production"; (4) Failure of the acceptance of foreign organic certification results to meet the requirements; (5) The identification made by the certification bodies for enterprises who only obtained foreign certification didn't meet the regulations; (6) The inspectors participated in the certification decision on the items they inspected themselves.

Special supervision and spot check of organic products

In 2015, based on the overall work arrangement of Registration Management Department of CNCA, CCAI organized two special supervisions and inspections to the quality of organic products. The supervision and inspection in the first half focused on the authenticity and compliance of the labeled "organic" products in the market (including EC and other emerging marketing channels) and particularly cracked down on "organic" labeling without certification, fake certification, the use of certification mark out of the term or scope and other behaviors. The ways of inspection were characterized by big coverage, large quantity, fast spot check and quick results. In the second half, supervision and inspection were carried out in the four municipalities directly under the central government, namely Beijing, Tianjin, Shanghai and Chongqing, where there were large sales of organic products, as well as online dealers and other emerging marketing forms; The selection of products chiefly focused on the high risk products featuring big number of issued certificates, big consumption, close connection with people's daily lives, which had been found out with problems in the past supervision and spot check, and which should be monitored and analyzed by the public, supervised mainly by the State Council and concerned highly by the society.

In 2015, a total of 1,333 batches of products were sampled from the circulation field, involving more than 20 kinds of products, 102 batches of products, were found not in compliance with the authenticity of certification, and the total compliance rate hit 92.3%; Tests were conducted to 363 batches among them, with more than 700 test items. 353 batches of products passed the tests and 10 batches failed, with a pass rate at 97.2%. Generally, using the certificate out of the term of validity in circulation field was prominent, but the quality safety level of the organic products with real and effective certification was relatively reliable.

Inspection of authenticity of certification

It was found, through the 2015, there was a total of 1,231 batches of samples in the inspection of authenticity of certification met the certification requirements. The rate of compliance with the authenticity of certification was 92.3%, which was 7.6 percentage points higher than that in 2013 (84.7%) but somewhat lower than that in 2014 (95.6%).

According to an analysis on that the authenticity of certification did not meet the specific situation, there were 29 batches involved the overdue use of certificate, accounting for 28.4% of the total non-conforming batches; 26 batches involved the of certificate were beyond the scope, accounting for 25.5% of those not using organic code ; 20 batches were found out not with a consistency between specifications and certificates, accounting for 19.6%; 15 batches of organic products imported were found out not having obtained domestic certification, accounting for 14.7%; It can be seen that overdue use of the certificates and use of certificates beyond the term of validity are prominent in the year, and the batches with problems accounted for more than 50%. The specific reasons, quantities and proportions of nonconformities are shown in Figure 80.

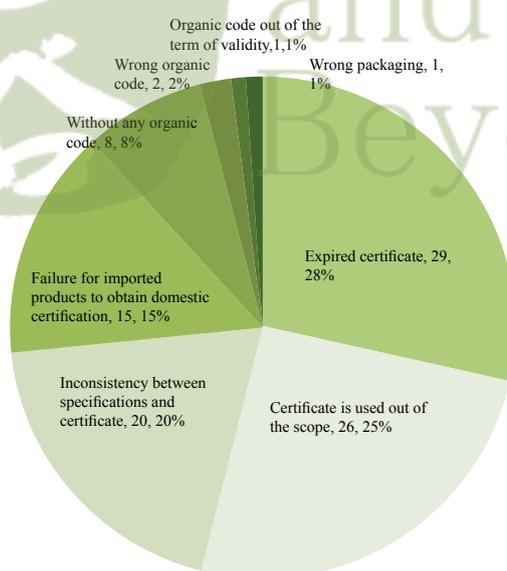


Figure 80: Reasons, quantities and proportions of nonconformities of sampled products with authenticity of certification

According to the types of the products which are non-conforming with authenticity of the certification, the 102 batches of non-conforming organic products mainly involve 42 batches of vegetables, 26 batches of cereals and 9 batches of condiments. The rate of the compliance of the three types of products with the authenticity of the certification respectively account for 60.4%, 94.0% and 81.2% of the corresponding batches of the products sampled and 44.2%, 27.4% and 9.5% of the total non-conforming products, as shown in Figure 81.

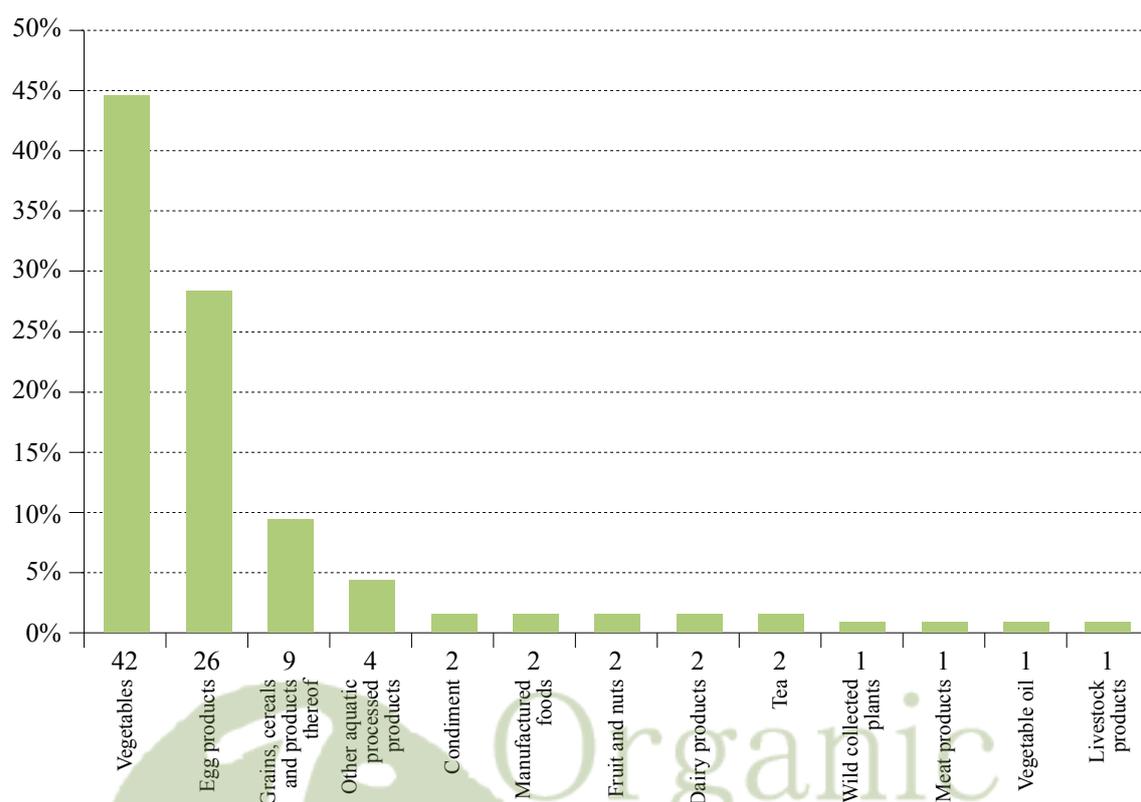


Figure 81: Proportion of batches of Non-conforming products in total Non-conforming batches

By the geographical distribution of production manufacturing countries, the rate of compliance of imported products with the authenticity of certification is lower than that of home-made organic products.

Table 23: Rates of compliance of organic products with the authenticity of certification by source

Source	Bathes Sampled	Non-conforming Batches	Rate of Compliance
Imported	96	15	84.4%
Home-made	1237	87	93.0%

The rates of compliance of major provinces with non-conforming products are shown in Figure 82. The rates of compliance of four provinces were below 80%, respectively Guizhou Province, Zhejiang Province, Henan Province and Jiangsu Province; two provinces had a rate of compliance below 85%, respectively Shandong Province and Xinjiang Uygur Autonomous Region. Other provinces maintained a relatively better situation. From the quantity of in-compliance with the authenticity of certification, Shandong Province, Zhejiang Province, Heilongjiang Province, Jiangsu Province and Henan Province ranked top five.

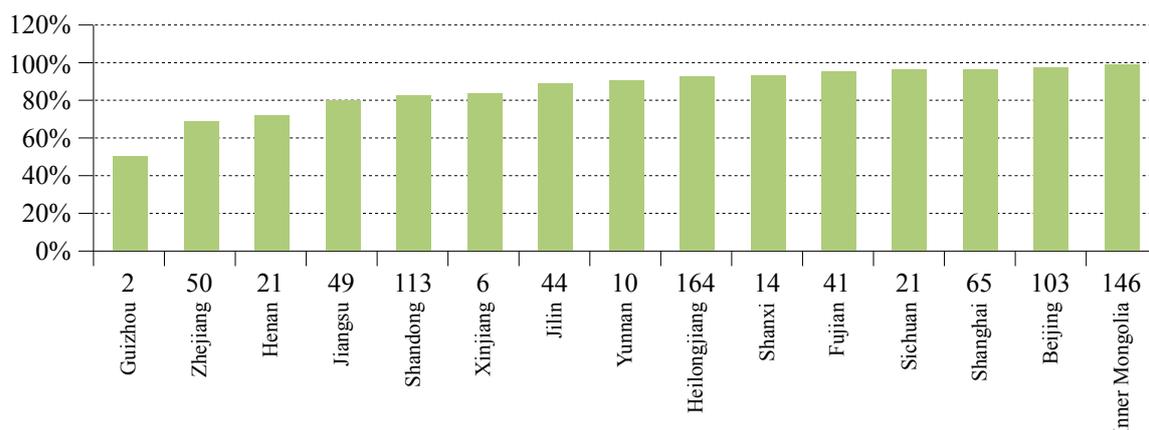


Figure 82: Major provinces with rates of in-compliance for the authenticity of certification

Product testing situation

Of the 363 batches tested, 353 batches were qualified in testing, with pass rate hitting 97.2%, slightly lower than that of 2014, but the overall quality was stable.

In terms of the types of the products failing to pass the tests, there are mainly 6 batches of tea, 3 batches of grain products and 1 batch of edible vegetable oil, with pass rate respectively hitting 89.8%, 97.3% and 97.4%; in terms of the places of origins of the 10 batches of unqualified products, they are respectively from Beijing (3 batches), Chongqing (3 batches), Tianjin (1 batch), Liaoning Province (1 batch), Guangxi Province (1 batch) and Hubei Province (1 batch).

Analysis on major problems found through spot-check supervision

(1) Overdue and beyond-specification use of organic certification logo phenomena are prominent

Through years of tightened supervision and special rectification, certification bodies and production enterprises have enhanced the sense of responsibility, and there was basically no phenomenon that dealers counterfeit or fraudulently use the identification logo or mislead the consumers through false publicity. But, in 2015, the found in-compliance with the authenticity of certification and the overdue and beyond-specification use of organic certification logo are quite prominent and needed urgent attention. At the same time, the supervision of organic products in the circulation field also need the cooperation by other relevant departments to enhance the law enforcement so as to increase the deterrent against violations.

(2) Pass rate of spot check is basically stable

Compared with the pass rate of spot check respectively in 2013 (98%) and in 2014 (98.5%), although the pass rate of spot check of the organic products is slightly lower (97.2%) in 2015, the rate is above 97% in all the three years, showing stable overall quality status of organic products. In 2015, in addition to pesticide residue, the substandard indicators newly added also include food contaminants and genetically modified ingredients. However, compared with 2013 and 2014, on the part of pesticide residue along, the pesticide types (6 types) detected from unqualified products did not obviously increased in 2015 (2 types detected in 2014, and 12 types in 2013).

(3) The false publicity on the EC platform is still prominent

The results of the 2015 supervision and inspection shows that online false publicity and consumption misleading were still prominent. This possibly is because that the EC platform operators were not quite familiar with organic product certification, which easily avail the stores to take advantages of the loopholes; On the other hand, it is because relevant working personnel on the platforms didn't

understand organic product certification well enough, which resulted in the regulation not in place.. So, it is very important to strengthen the relevant training and publicity to EC platform operators and increase the efforts in cracking down and supervising false publicity.

Accreditation situation

As of December 31, 2015, China National Accreditation Service for Conformity Assessment (CNAS) has accredited 22 organic product certification bodies, accounting for 84.6% of the certification bodies (26) accredited. The main basis for CNAS's accreditation for organic product certification bodies are two documents, General Requirements for Bodies Operating Product Certification Systems (GB/T 27065) and Accreditation Scheme for Organic Certification Bodies (CNAS-SC22). As of December 31, 2015, the accredited organic product certification bodies have totally issued 12,786 certificates, with an increase of 1,287.

Local supervision of organic product certification

Certification supervision situation of local certification supervision authorities

Basis, division of labor and ways of inspection of certification supervision situation of local certification supervision authorities

The national standard Organic Products and the Implementation Rules for Organic Product Certification provide a basis for the implementation of supervision and management. The Guidelines for the Entry Inspection of Imported Organic Products (for Trial Implementation) provides for the working procedures, contents and methods for the entry inspection of imported organic products.

Local certification supervision authorities shall, in accordance with their respective duties, carry out supervision and inspection to the organic product certification activities in their respective jurisdictions according to law, and investigate and deal with the illegal acts in the production, processing and sales of certified organic products. All the entry and exit inspection and quarantine authorities are responsible for the supervision and inspection of foreign-funded certification bodies, the certification and sales of imported organic products and the certification, production, processing and sales activities of exported organic products. Local quality and technical supervision authorities are responsible for the supervision and inspection of the Chinese-funded certification bodies and the certification, production, processing and sales activities of the organic products produced and sold at home.

The ways of inspection mainly include: (1) Supervision and inspection of whether the certification of organic products conforms to Administrative Measures for Organic Product Certification and the provisions for the implementation rules of organic products certification; (2) Supervision and spot check of certified products; (3) Supervision and inspection of the certification, production, processing, import and sales units of certified products; (4) Supervision and inspection of certificates and certification marks of organic products; (5) Supervision and inspection of whether certification consulting activities of the organic products are in line with the relevant provisions; (6) Investigation and handling of certification and certification consulting activities of organic products; (7) Crackdown on illegal acts according to law.

Contents of Day-to-Day supervision and regulation situation of organic product certification

The task sources for local certification supervision authorities to carry out day-to-day regulations include the following three aspects: First, in accordance with the Administrative Measures for Organic Product Certification, through the food and agricultural product certification information system, according to the relevant information submitted and uploaded by certification bodies,

supervision and inspection plan is carried out independently to supervise and inspect the organic product certification activities within the areas under the jurisdiction; Second, compliant case investigation is carried out entrusted by CNCA; Third, investigation is carried out base on the reported clues.

Supervision and inspection to the certification bodies engaged in certification activities are carried out. The main contents of inspection include: Qualification of certification body, information disclosure, certification procedures, certification personnel management, and certificate and logo management; On-site audit time of certification bodies and concerns about agricultural inputs; certification bodies' audit of buffer setting, parallel production, material accounting, rotation planning and implementation and other key production links of organic production and whether the implementation of enterprises is in place and so on.

Supervision and inspection to certified enterprises are carried out. The main contents of inspection include: Whether there is the phenomenon of using prohibited substances; the management of seedlings; whether the records of procurement and use of inputs are saved; whether the environment for place of origin is in line with the requirements; material accounting and rotation planning; whether environment monitoring and product testing are in line with the requirements; whether organic product certification mark and the use of organic code meet the requirements; whether parallel production is managed in all links as required; control management of storage and transportation processes; use of organic product sales license; whether the imported organic products meet the requirements; whether certificate and certification mark meet the requirements after certificate suspension, cancellation or revocation.

The supervision and inspection of marketing of organic products is mainly reflected in the supervision of the certification mark and product supervision and spot check. The main contents of inspection include: Whether Chinese organic product certification mark is imposed onto certified products or the smallest sales packages of the product; whether the Chinese organic product certification mark printed on the tags, instructions for use and advertising materials of certified products meet the requirements and whether there are changes in its form or color; for the products have not obtained Chinese organic product or certified products are re-processed, sub-packaged or segmented out of the production and processing venues marked on the certificate, whether there is "ORGANIC" or other words or the text expression and patterns on the product, the smallest package for sales or the label that may mislead the public to consider the product as organic one; Organic products are sampled to send to qualified testing organizations for the detection of transgenesis, pesticide residues, heavy metals, hormone and so on.

Local certification supervision authorities, in day-to-day supervision, resolutely investigate and deal with all kinds of illegal acts such as counterfeit, fraudulent use, overdue and out-of-scope use of certification mark, false certification and certificate trade, to effectively maintain the order of the certification market and the legitimate rights and interests of consumers. When receiving the complaint cases entrusted by CNCA, local certification supervision authorities shall actively offer cooperation and carry out investigation as requested. When receiving consumer complaints about problem products with organic certification, local certification supervision authorities shall verify the reported clues and carry out investigation.

When the results of certification supervision and inspection involve certified enterprises, local certification supervision authorities shall timely notify relevant certification bodies. When certification bodies are involved, a timely report shall be submitted to CNCA. In the case that there is a need for the coordination of other local certification supervision authorities, joint investigation and information exchange can be carried out. At the same time, certification bodies are urged to actively help enterprises to ensure that products continue to meet the requirements.

Local certification supervision authorities independently carried out certification supervision and

inspection of a total of 1,260 enterprises, with 1,159 batches of products (quantity/type) inspected and 108 problems of various kinds found. The varieties involved wine, sanitary napkins, milk powder, make-up and cleaning supplies, baby dietary supplements, flaxseed oil, olive oil, tea, condiment, meadow ,cow's milk, seabuckthorn, broad beans, live cattle and sheep, and so on.

In 2015, local certification supervision authorities forged ahead steadily their work through port verification, linkage supervision, market sampling, inspection of organic product demonstration areas and other means and cracked down lots of illegal acts in the market supervision of organic products and promoted the normalization and the effectiveness of certification of the certification market through administrative warning letter, interviews with certification bodies, rectification ordered, product removal from shelves, administrative penalties and other related means.

Port verification of imported organic products

After the release of the new Administrative Measures for Organic Product Certification on April 1, 2014, CIQs have carried out a variety of forms of publicity and training activities to improve social awareness. Operational certification management procedures have been established to standardize the first-line inspection work. The CIQ of Beijing Airport, in accordance with the entry inspection requirements for imported organic products, included the labeling requirements for organic product certification mark into the labeling requirements for imported foods and carried out audit of organic product certification mark while auditing the food label. While carrying out product entry inspection, CIQs increased efforts in team building. The CIQ of Shanghai joined hands with 10 port CIQs of Beijing, Tianjin, Liaoning Province, Jiangsu Province, Zhejiang Province, Ningbo, Shandong Province, Guangdong Province and Shenzhen to produce the teaching film Entry Verification of Organic Products jointly; The CIQ of Shandong Province actively collected typical cases and trained and established its supervision team, which currently contains 57 full-time and part-time personnel. The follow-up supervision of organic products is mainly based on market supervision and spot check. The CIQs of Beijing, Shanghai, Guangdong Province, Shandong Province and Jiangsu Province have carried out market supervision and inspection to the imported organic products. The CIQ of Beijing, with market inspection brigade as the main force of supervision and large malls and supermarkets as the starting point, has required enterprises to take the initiative to identify and reject unqualified products while timely delivering relevant organic product requirements to them. The CIQ strictly has enforced law and ordered the dealers to remove the suspected off the shelves and sealed up violating products before an investigation.

The CIQ of Shanghai has expanded the scope of the market supervision and inspection of imported organic products to online sales. It firstly interviewed a Shanghai-headquartered famous EC enterprise to publicize relevant regulations and ask it to filter the products suspected of illegal publicity by its self-run stores on its website to avoid misleading consumption. Currently, the two sides have a good communication and rectification is in progress, with initial results achieved.

In 2015, the ports of Beijing, Tianjin, Liaoning Province, Shanghai, Jiangsu Province, Ningbo, Shandong Province, Guangdong Province and Shenzhen totally seized 247 batches of unqualified organic products, mainly including dairy products, wine and cosmetics. The main reason behind disqualification is the lack of domestic organic product certification for those with foreign certification.

Linkage between port supervision and market supervision

On May 26, 2015, the CIQs of Liaoning Province and Shandong Province cracked down on a batch of unqualified organic products imported in the new model of "information exchange, mutual aid in law enforcement and mutual recognition of supervision". During market supervision and spot check, the CIQ of Qingdao found that the imported shower gel, toothpaste and other washing

supplies of some brand available in the large shopping malls and supermarkets under its jurisdiction were labeled with “ORGANIC” and the French organic certification mark but no legal organic certification procedures could be provided. Through tracing the source, it was found that the two batches of goods entered China via Dalian port of Liaoning Province. So, the CIQ notified the information about the unqualified products of the CIQ of Liaoning Province. Through further source tracing, the CIQ of Liaoning Province found that the two batches of imported shower gel, toothpaste and other washing supplies (2,190 kilograms and valued at 16,628 Euros) was found unqualified by the CIQ of Dalian with written mark and text expression when the corresponding organic product entry verification was conducted in Liaoning in June 2014. The CIQ of Dalian had interviewed the import dealer and ordered it to carry out rectification. Under the supervision of the CIQ of Dalian, the dealer carried out such rectifications for all unqualified products in stock as changing labels and covering the old labels and undertook in writing that it had taken rectification for all unqualified products available on the market, then submitted rectification photos and rectification reports. But the dealer’s rectification was not complete and attempted to take advantage of the difficulty of non-local law enforcement supervision of CIQs. In response to the above problem, the CIQ of Qingdao imposed administrative penalties on the sellers. The CIQ of Liaoning Province further strengthened the port verification work and once again interviewed the importer and instructed it to take a thorough investigation on the inventory products of its national distributors.

The role of social supervision and industry self-discipline in the supervision and management of organic product certification

Overview of self-discipline of organic product certification industry

China Certification & Accreditation Association (CCAA) has strengthened the management of industry self-discipline and driven certification bodies to strength self-discipline through the release of such normative documents as the Convention on the Self-discipline of China Certification and Accreditation Industry, Integrity Operation Practices of Certification Bodies and Personnel Self-Discipline Practices of Voluntary Product Certification. The main work include such major aspects as certified organization changing the certification body under whom it was managed, certification personnel changing the organization he/she works for, good certification audit (consultation) case exchange and release of illegal processing information.

In regulating the industry self-discipline, since its inception, CCAA has released the Convention on the Self-discipline of China Certification and Accreditation Industry. The Convention has promoted the healthy and orderly development of China’s certification and accreditation industry, enhanced the qualify and effectiveness of certification and accreditation work, safeguarded the legitimate rights and interests of practicing institutions and employees, certified organizations and the relevant parties of the society, established the industry self-discipline mechanism, standardized the behaviors of certification practitioners and made self-discipline regulation for the optimization of the market competition environment. For the units and individuals violating the Convention, once their behaviors are verified, CCAA will deal such cases on the base of the Articles of China Certification & Accreditation Association and relevant self-discipline normative documents and the specific situation, with the investigation and processing results publicized.

In promoting the integrity operation of the organizations, CCAA actively responded to the spirit of the Circular of the National Development and Reform Commission on Issues Concerning Lifting the Control over the Charging Standards for Certain Professional Services (FGJG [2014] No. 1437) and released Integrity Operation Practices of Certification Bodies, which was implemented from May 1, 2015, serving as a guidance to encourage and promote the honest and trustworthy management of certification bodies to provide standardized and quality certification services, adhere to fair

competition, fulfill social responsibilities, protect the interests of related parties, maintain industry reputation and continuously improve the credibility of certification service. CCAA is responsible for promoting and organizing the implementation of the document and supervision and management of its implementation situation.

In terms of certificate conversion requirements, in order to maintain the authority of the certificate, standardize the process of certificate conversion and curb the unfair competition behaviors caused by certificate conversion, in June 2010, CCAA issued the Methods for Recording of Certificate Conversion (Trial) to regulate the conversion in the forms of initial review, re-certification and supervision by other bodies during the validity period to the certificates issued by certification bodies. In order to facilitate the certification bodies to accurately grasp the requirements of the document and standardize the certificate conversion work, in March 2012, CCAA proposed Certificate Conversion Implementation Guide according to the accumulation of cases concerning certificate conversion to provide useful guidance for certification bodies and certified enterprises. In May 2012, in order to restrain the unfair competition relating to the certificate, maintain the authority of the certificate, safeguard the authority and reputation of the certification industry and guide the fair competition between the certification bodies, CCAA released the Fair Competition Norms for Certification Bodies – Constraints on Certificate-related Unfair Competition Behaviors and the Circular on the Self-discipline Management of Organic Product Certificate, stating to that the self-discipline management to organic product certificate would be implemented from June 1, 2012.

In terms of regulating self-discipline for organic product certification personnel, in order to strengthen the practice credit management of certification personnel, CCAA has issued the Voluntary Self-Discipline Norms for Certification Personnel (Trial) and the Practice Credit Management Norms for Certification Personnel. Through the implementation of credit management, a mechanism has been formed for the credit record, inquiry and restraint for related parties including certification bodies, certification personnel and CCAA, and the sense of responsibility of organic product certification personnel has been enhanced. The certification personnel practice credit information system interconnected with the certification personnel registration and management system has been established. The day-to-day discredit behaviors of the certification personnel will be investigated and verified by certification bodies. After the audit and approval of the heads of certification bodies, it will be recorded into the certification personnel practice credit information system as personal credit archives. In addition, certification bodies can regard the credit information of certification personnel as one of the important evaluation bases for the employment, use, performance appraisal, promotion and salary increase of certification personnel. When certification personnel apply for the shift of practicing body, the accepting certification bodies can view their credit information. In the case that the certification body fails to perform the credit management duties or has serious problems in the credit management process, CCAA will give a public notice, with associated punishment for the registration application qualification of certification personnel. At the same time, the violations will be notified to the certification administrative regulation authorities and certification bodies.

In terms of management of certification personnel changing practicing organization, in October 2006, CCAA issued and implemented the Interim Provisions on Certification Auditors Changing the Practicing Organization to carry out “one person, one account” self-discipline management for certification auditors changing the certification body, basically achieving the stable practice, orderly flow and effective management of the practitioner of certification bodies. In May 2011, CCAA revised the original document and released the Interim Provisions on the Registered Certification Personnel to Change Practicing Organization, which provides for that all certification personnel who is going to change the practicing organization he/she works for shall file an application to CCAA and only subject to the approval notice of CCAA can the personnel get engaged in

certification activities in a new organ. Organic product certification inspector can only practice in one certification body and shall not practice in two or more certification bodies in any form and manner. The certification body should not employ any certification personnel who are working with other certification bodies. In accordance with the needs for industry development, CCAA constantly adjusted the specific procedures and methods for practicing organization body. The initial half-year transition was adjusted to the quarterly acceptance approval. In 2013, the quarterly basis was adjusted into the monthly basis. In October 2014, the module for registration of certification personnel and for certification personnel, in the Management System V3.0, who are considering changing the practicing organizations they work for was officially launched, and practicing organization change could be done on-line completely, with effectiveness and efficiency greatly improved. In order to cooperate with the on-line practicing organization change for registered certification personnel, in March 2015, CCAA released the Procedures for Registered Certification Personnel to Change Practicing Organization. According to the document, the applicant may at any time apply for changing organization, and the acceptance organization can be defined one or one without practice now; in the case that the application for organization change is not approved or the status of practice is “temporarily without practice organization”, application can be re-submitted at any time; only the applicant holding internship registration qualification and the applicant temporarily having no practice organization are free from the restriction that no organization change is allowed within 12 months. This is more favorable to promote the need of certification personnel for certification experience accumulation according to the situation of certification bodies.

In good certification audit case selection of the certification industry, CCAA, for years, has held peer review exchange activities on good certification audit cases. It, according to the peer reviews, has built a platform for the display of value of certification work and the exchange of certification audit technology. It organizes the exchanges and learning of practitioners to enhance the overall improvement of industry capacity, which provides a business exchange platform for certification business and promotes certification bodies to pay more attention to the practice capacity and comprehensive business level of certification personnel. So far, a large number of certification bodies have regarded internal case review as normal certification technology exchange activities.

Finally, in terms of the handling of rule violations of certification personnel and the release of related information, in October 2010, CCAA revised and issued Registered Personnel Qualification Disposition Rules (4th Edition), which provides for the qualification disposition of registered personnel who go against the registration rules of CCAA, relevant laws or regulations as well as the responsibilities of registration guarantor and registration recommendation organizations. In addition, CCAA publicized all kinds of complaint cases accepted through its compliant mailbox on its official website. Once these cases are verified, the registration qualification of relevant personnel will be suspended, degraded, cancelled or deregistered. This move aims to urge the registered certification personnel to draw a lesson, strictly abide by professional ethics and jointly safeguard the reputation of the industry.

Basic situation on social public opinions in 2015

In 2015, a total of 145 pieces of public opinion information were reported, with the amount of retransmission hitting 673 times. Such information mainly includes the contents in the following five aspects: the information on suspected counterfeit production and rule violation relating to organic products, the information on questioned lack of organic supervision, the information on organic supervision and publicity, information on organic products and industry analysis and other information (Figure 83).

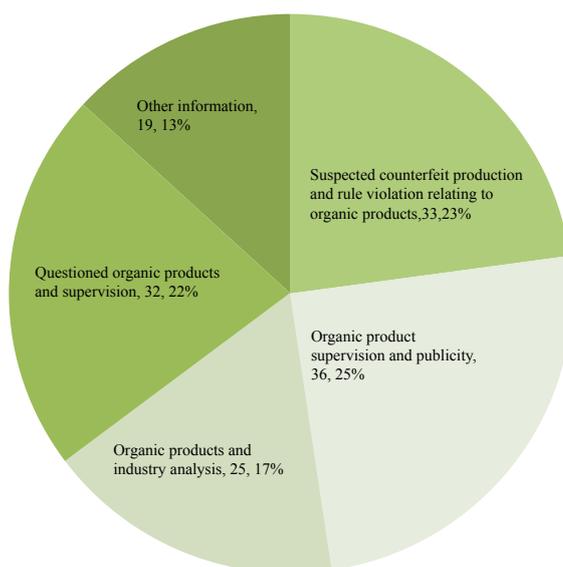


Figure 83: Classification and quantities of domestic public opinions on organic products 2015

From Figure 83, we can see that the amount of the information on suspected counterfeit production and rule violation relating to organic products is the highest, indicating that the authenticity of organic products is the top concern of the media. In 2015, a total of 33 pieces of public opinion information on suspected counterfeit production and rule violation were reported, mainly involving organic vegetables, honey, organic fruits, cosmetics, grain and oil, dairy products, alcohol and marine products, rice flour and so on and also including the doubt about the online sales of organic products and the speculation of some concepts on the market.

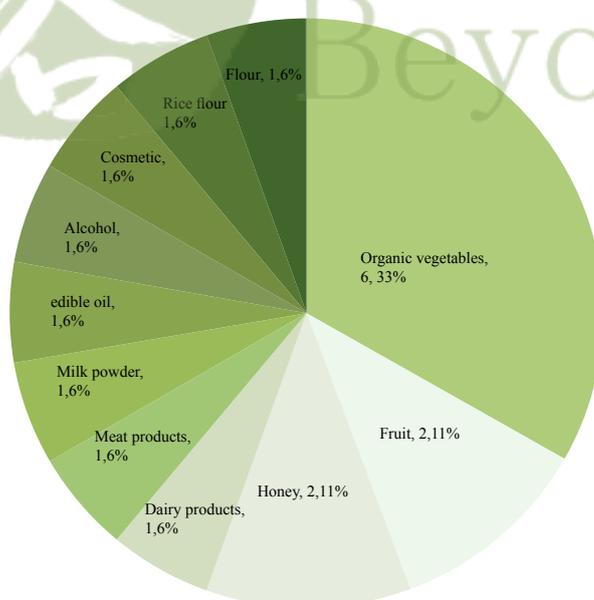


Figure 84: Classification and amount of information on suspected counterfeit production and rule violations relating to organic products

From Figure 84, we note that most of information on the counterfeit production and rule violations relating to organic products is about organic vegetables, accounting for 33%, indicating that the media and the public highly concern daily fresh products. Media and relevant departments are doing

things from the perspective of consumers, and the whole society is more enthusiastic about the supervision of certified organic products and has provided many important clues for the supervisions by regulatory organs.

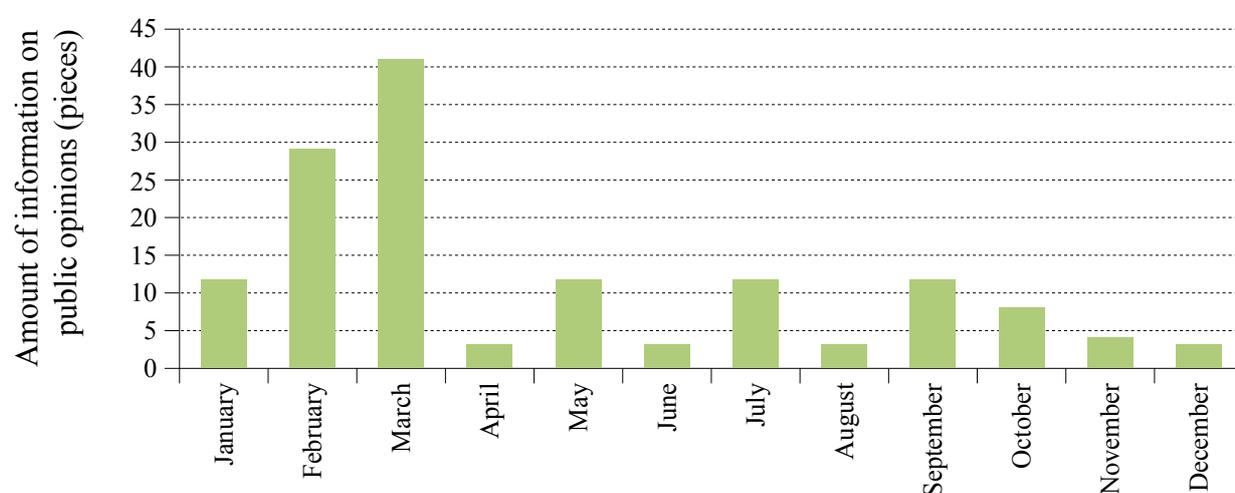


Figure 85: Distribution of public opinions in each month of 2015

In general, the amount of information on public opinion information reported from April to December 2015 was basically in a steady state (Figure 85). At the end of the year, the media's attention to organic food declined, therefore, less public opinion information was reported in November and December. The amount reached a peak in March, which had certain relation with the common concern of the public about product quality during the Spring Festival. In addition, the promotion of organic product knowledge and the centralized supervision law enforcement relating to organic product certification also aroused greater concern in the society.

From the public concern caused by public opinions, from the end of August to early October 2015, the social concern caused by the public opinions was relatively high, with a large amount of retransmissions (the total amount of media retransmissions hit 196 times by we-media, WeChat platform, Weibo, etc.), was also more typical. Relevant typical public opinions are shown in Table 23.

Table 23: Statistics of information on major public opinion from August to October 2015

No.	Date	Title	Media
1	Aug. 28	Bring Organic Food to Citizens' Dining Tables	Tianjin Daily
2	Sept. 1	Organic Milk "Unworthy of the Name": A Marketing Concept under the High-end Halo	New Food Weekly of Beijing News
3	Sept. 2	Mengniu Responds to the Doubt about Organic Milk: Never Purchasing from Fucheng's Farm	Beijing News
4	Sept. 7	Fucheng Wufeng Releases the Statement on the Media Reports of Quality Defects of Our Organic Milk Products	China Securities Journal, Shanghai Securities News and website of Shanghai Stock Exchange

Production and Trade of Organic Rice, Vegetables, Tea and Dairy Products

5	Sept. 9	Organic Coffee Claims It Can Help Lose Weight, Clean Waste and Cure Cancer: Many Deaths Cause? Organic Foods =Safer? More Nutritious? Greener?	Chongqing Evening News, Organic Agriculture Net of China (http://www.zgyjnyw.roboo.com/)
6	Sept. 10	Release of 2015 Report on Vegetable Comparison Test; Spot Check: Report on Nine 'Organic' Vegetables Not Conforming to National Standards	Consumers Association of Tianjin, The Daily News
7	Sept. 11	'Organic' Foods Are Good? High-end Is Not Equal to the Healthiest	Xinhuanet
8	Sept. 14	70% of the 'Organic' Vegetables in Tianjin Are Not Qualified: Supervision Must Be Strengthened	China Food Newspaper
9	Sept. 21	Hundreds of Milk Brands Are Selling the 'Organic' Concept	http://news.163.com
10	Sept. 21	Fake Organic Milk Brands Flooding the Market: Only 21 of the Hundreds Are Really Organic	Beijing Morning Post
11	Sept. 29	Organic Vegetables Survey: Using Chemical Pesticides Is the 'Unspoken Rule' Organic Foods Using Chemical Pesticides Is the Unspoken Rule: Professional Guide to Avoid Pesticide Residues	Beijing News
12	Oct. 3	Don't Make the Supervision of 'Organic Foods' Armchair Concept of Organic Milk Gets Hot, Supervision Department Shall Be the 'Gatekeeper'	Organic Agriculture Net of China (http://www.zgyjnyw.roboo.com/)
13	Oct. 8	Bottleneck Exists for the Industrialized Development of 'Organic Agriculture'	http://finance.china.com/
14	Oct. 11	Ordinary Vegetables Served as the Organic: Inside News Exposed	Organic Agriculture Net of China (http://www.zgyjnyw.roboo.com/)
15	Oct. 11	Real 'Organic Industry' Required	China Daily

is mainly concentrated on three typical reports, namely Hebei Fucheng Wufeng Suspected of Violation, Tianjin Consumers Association Finds 70% of Organic Vegetables Unqualified and Use of Chemical Pesticides by Organic Vegetables becomes “Hidden Rules”.

Establishment of Organic Product Certification Demonstration Area Promotes Development of Regional Organic Industry

Basic situation of establishment of national organic product certification demonstration area

Background

In 2004, CNCA establishes China's unified organic product certification and accreditation system, which met international standards. With the economic and social development and the enhancement of people's awareness of environmental protection, consumers pay more attention to food safety and quality of life, and green, pollution-free, organic foods are favored by more and more consumers. Especially in the context of the serious crisis in domestic food safety confidence, organic products have become the focus of attention of some consumers and special people (middle-aged and infants) for using no chemical fertilizers and pesticides. In recent years, organic product certification and organic industry have gotten swift development, which gradually arouses the high concern of the community on organic product certification, production and trade. However, some negative public opinions on fake organic products, violation of organic product certification and lack of integrity in organic production lead to declined confidence in organic products consumption. These issues need to be guided and resolved as soon as possible.

The establishment of Organic Product Certification Demonstration Area is proposed by CNCA under this background. It is also to respond positively to "green development, building a resource-saving and environment-friendly society", which was put forward in the 12th Five-Year Plan and respond to the national policy of "building a sound ecological system" proposed by the 18th National Congress of the Communist Party of China. It plays the essential role of "delivering trust and serving development" of certification and accreditation. The establishment of the demonstration area aims to build an organic product certification linkage supervision system and an organic industry development coordination management mechanism, both of which are under the overall responsibility of local governments and integrate departments of quality inspection, AIC, agriculture, environmental protection, public security, etc., thus improving the effectiveness of organic product certification, promoting the regional development of organic industry and further guiding and promoting the development of China's organic industry. Under the energetic support by local quality inspection departments and local governments, so far, a total of 54 counties, cities and districts in China have been awarded the tile of "National Organic Product Certification Demonstration Area (County/City). 9 among them have ranked among "the first batch of national organic product certification demonstration areas".

Working procedures and application conditions

Basic working procedures

In line with the idea of "winning by quality", the attitude of "pursuing to high quality rather than big quantity" and the principle of "fair and open, strict and normative", the work of establishing National Organic Product Certification Demonstration Area has been carried out. After several years of attempts and continuous improvements, the basic working procedures for establishing Organic Product Certification Demonstration Area have been determined: "Unified application by county/city-level government – recommendation after preliminary review by provincial quality inspection department - professional appraisals by experts organized by CNCA including file review, expert defense and on-site verification based on sampling of certain proportion - social publicity – document released by CNCA. At the same time, the establishment of the demonstration

area is carried out at two levels, namely "organic demonstration area" and "organic demonstration area under construction", in a bid to encourage and energetically support the local governments who hope to develop organic industry and pay attention to organic product certification to completely reach the standards of the demonstration area and really play a typical demonstration role through the way of construction after a period of time of working. For the counties and cities that have certain foundation for the development of organic industry, have carefully learned relevant documents for the establishment of organic product demonstration area, have established the linkage supervision mechanism for the certification of organic products and the organic industry development coordination mechanism and intend to apply for establishing demonstration area, after the normal operation of above mechanisms, only after going through the basic procedures above can they be included on the list of "the Annual List of the Establishment of National Organic Product Certification Demonstration Area 20**" of CNCA to comprehensively carry out the establishment of Organic Product Certification Demonstration Area.

The acceptance of Organic Product Certification Demonstration Area is the process to improve the quality and enhance the efficiency for the work of Organic Product Certification Demonstration Area. The demonstration area under construction has carefully summed up the experience of the development for organic industry and of the establishment of demonstration area, and constantly improved relevant systems within the building period (generally not less than three years), with measures of implementation in place, effective supervision and management and obvious working results. After certain achievements have been made, the initially set goal reached, the demonstration area condition satisfied and the ore-acceptance by provincial quality inspection department passed, the acceptance review for Organic Product Certification Demonstration Area can be participated in according to the acceptance criteria and schemes of CNCA for establishment of Organic Product Certification Demonstration Area. After the review is passed, CNCA will award the tile of "National Organic Product Certification Demonstration Area".

Application conditions

According to the Notice on Carrying Out the Establishment of "Organic Product Certification Demonstration Area" (GRZ [2011] No. 34) of CNCA, the establishment of National Organic Product Certification Demonstration Area should meet but is not be limited to the following conditions: 1) The applicant should be the county/municipal government and recommended by the provincial quality inspection department after initial review; 2) Possessing the basic environmental conditions for the development of organic industry and relatively concentrated areas for certain scale of organic production; 3) Having several local advantageous products that have formed one or more mature organic production, supply and marketing industry chain (s), possessing certain industrial scale and having certain pulling effect to local economy; 4) Having no organic product certification problems nor major food, agricultural quality safety accidents in the past three years; 5) The applicant have developed an organic industry development plan in line with local reality and the corresponding supporting support policies and set up the management coordination body that is led by major county/municipal chief heads and in which a lot of departments participate; 6) The applicant should have developed special organic production management measures, and can strictly control prohibited substances from flowing into the organic production area to practically ensure that the production process and quality of its organic products meet the requirements of the national standard Organic Products, with designated departments and personnel responsible for implementation.

Work progress

Basic information

Since it carried out this work in 2011, CNCA has been paying attention to improving the system, adjusting procedures, developing expert teams and increasing efforts in helping and supervising the Organic Product Certification Demonstration Areas after the establishment. At the same time, in time of organizing the establishment of demonstration area, CNCA actively guides local governments to sum up and refine the roles in building the demonstration area in terms of certification supervision linkage, service for local development, promotion of modernization transformation of agricultural industry, protection of food safety, expansion of foreign trade, protection of ecological environment and service for Eco-civilization construction, encourages and urges the governments applying for building demonstration area to form eradicable and portable typical experience, to further enhance the essence of organic product certification demonstration area creation and strengthen the long-term effect and innovation of building the demonstration area.

In the five years from 2011 to 2015, under the strong supports of local quality inspection departments and local governments, CNCA has approved 54 counties/cities/districts in 21 provinces/municipalities/autonomous regions to carry out the establishment of Organic Product Certification Demonstration Area (Table 24). See the distribution of 54 counties/cities/districts as shown in Figure 86. Sichuan Province ranks No. 1 with 7 demonstration areas; Xinjiang Uygur Autonomous Region, Guizhou Province, Zhejiang Province and Yunnan Province ranked No. 2 together with 4 demonstration areas. Organic Product Certification Demonstration Areas are those located remotely, far from the core development area of heavy industry and with good natural environment and those with agriculture as the main industry for the development.

Table 24: List of national organic product certification demonstration areas 2011-2015

Year	Demonstration Area	Year	Demonstration Area
2011	Yanking County, Beijing	2014	Kaihua County, Zhejiang
2011	Angling County, Shanxi	2014	Inferring County, Jiangxi
2011	Red Star Farm, Heilongjiang	2014	Arlington City, Henan
2011	Annoying County, Jiangsu	2014	Xiang County, Henan
2011	Guangxi County, Shanxi	2014	Chibi City, Hubei
2011	Zepu County, Kasai of Xinjiang	2014	Liangzihu District, Hubei
2011	Xichong County, Sichuan	2014	Lu he County, Guangdong
2011	Banzai County, Jiangxi	2014	Zhongjian County, Sichuan
2011	Anxi County, Fujian	2014	Guilty County, Qinghai
2011	Anglican County, Sichuan	2015	Feigning Manchu Autonomous County, Hebei
2011	Jiande City, Zhejiang	2015	Changing Manchu and Mongolian Autonomous County, Hebei
2012	Lilian County, Yunnan	2015	Davao Banner, Inner Mongolia
2012	Xinjiang County, Shanxi	2015	Halite Banner, Inner Mongolia
2012	Wuyi County, Zhejiang	2015	Jinan City, Jilin

2012	Weeing HuiShan Ecological Economic Development Area, Shandong	2015	Indianian County, Jilin
2012	Yumin County, Xinjiang	2015	Belong City, Jilin
2012	Jiangxi County, Guizhou	2015	Sichuan County, Henan
2012	Xuanen County, Hubei	2015	Zhaoping County, Guangxi
2012	Regiment 76, No. 4 Agricultural Division, Xinjiang	2015	Naxi District, Luzhou of Sichuan
2012	Wu yuan County, Jiangxi	2015	Lakeisha County, Guizhou
2012	Jiangsu City, Fujian	2015	Zheng'an County, Guizhou
2012	Boxing County, Sichuan	2015	Simsim District, Pu'er City of Yunnan
2012	Weenie County, Xinjiang	2015	Yang County, Yunnan
2013	Chunan County, Zhejiang	2015	Qingchuan County, Yunnan
2013	Deafen City, Jiangsu	2015	Shiatsu City, Tibet
2013	Pujiang County, Sichuan	2015	Henan County, Qinghai
2013	Qingchuan County, Sichuan		
2013	Fenggang County, Guizhou		



Figure 86: Geographical distribution of organic product certification demonstration areas in China

In order to enhance the level of work for building Organic Product Certification Demonstration Area and fully stimulate the enthusiasm of the demonstration areas to continue to attach importance to the development of organic industry, CNCA released the list of the first batch of Organic Product Certification Demonstration Areas in 2015 (Table25).

Table 25: The first batch of organic product certification demonstration areas (2015)

Demonstration Area	Demonstration Area
Guangxi County, Shanxi	Wuyi County, Zhejiang
Xichong County, Sichuan	Weeing HuiShan Ecological Economic Development Area, Shandong
Banzai County, Jiangxi	Pujiang County, Sichuan
Anxi County, Fujian	Chibi City, Hubei
Jiande City, Zhejiang	

Day-to-day regulation and special supervision and inspection

According to the requirements for the establishment of the Organic Product Certification Demonstration Area, the local certification regulation authorities in charge of building the demonstration areas have strengthened the day-to-day regulation of organic product certification in the Organic Product Certification Demonstration Areas. Under the linkage supervision system headed by local governments and participated in by multiple departments, the role of quality inspection departments is highlighted, while making local governments and relevant departments to gradually realize the importance of the quality work and certification and accreditation means. The organic industry coordination management mechanism led by the municipal government has been effectively operated and the whole-process supervision of production, certification and sales of organic products in the demonstration area has been enhanced. CNCA also has organized relevant departments and experts to increase the annual special supervision and spot check work for Organic Product Certification Demonstration Area. Each year, 4 to 5 demonstration areas are sampled to have a full-coverage inspection to organic producers, certification bodies and certification activities to timely investigate enterprises with problems.

Other help and support work

In time of tightening supervision, there is a need to promote development. When carrying out organic demonstration work, CNCA is very concerned about the guiding role of building demonstration areas. By use of limited regulatory funds, it organizes relevant departments and experts to carry out the training and exhibition participation of relevant laws, regulations, standards and rules concerning organic product certification and build the platform for connecting production and sales and expand sales channels for the organic demonstration areas. While constantly summarizing the experience of building demonstration areas, organic demonstration areas spontaneously organize the Alliance of Organic Industry Development Areas. The tenet of the Alliance is “honest and trustworthy, experience exchange, building platforms, serving organic industry”. All the organic producers, sellers and all interested parties within organic demonstration areas are the members of the Alliance. Members can put forward their own appeals for the development of organic industry and get the inspiration and experience of other areas. The Alliance organizes from time to time visits, learning, experience exchange, production-sale docking and other activities.

Guiding role of the establishment of national organic product certification demonstration area for regional organic industry development

Practices and characteristics of building an organic product certification demonstration area

In just five years, the establishment of Organic Product Certification Demonstration Areas has aroused strong repercussions throughout the country. Local governments began to re-explore the active role of the development of organic industries for local economic adjustment, industrial upgrading, agricultural modernization and environmental protection and building a sound ecological system. Under the system of building organic product certification demonstration areas, they actively explored the ways suitable for the development of local organic industries. From the experience of various places, the mainly practices include:

Planning first

Act after planning. Building an Organic Product Certification Demonstration Area is a systematic project and needs the joint efforts of multiple departments. To do this job well, there is a need to make general strategic layout, clarify the direction of work, formulate scientific planning and implement the promoting measures, thus promoting the coordinated development of the organic industry in all aspects.

For example, Guangxi County of Shanxi Province, in the process of promoting the development of organic industry, understands and thinks the protection and industry development of organic products at national and global levels, and makes planning and arrangement with the overall economic development of the county into consideration, conducts researches and advancements in the big pattern of urbanization and farmers' income increment, and effectively solves such problems as single industrial form, less varieties, not obvious scale effect and inadequate efforts in production innovation and brand promotion. To this end, Shanxi Bureau of Quality and Technical Supervision and the other three provincial departments jointly signed with Hanzhong Municipal People's Government the Multi-Party Agreement on Further Supporting the Development of Organic Industries of Guangxi County. According to this agreement, efforts will be made from 8 aspects to integrate resource advantages and make green organic industries a new growth pole driving regional economic development to enhance the level of Shanxi's organic industry development.

Strong policy

The development of organic enterprises is inseparable from the attention and guidance of local governments as well as the implementation of all aspects of support policies. In recent years, relevant policies for the establishment of Organic Product Demonstration Area have been rolled out in the Organic Product Demonstration Areas in succession, providing strong policy guarantee for the development of local organic industries. These policies provide basis for all departments to carry out work and firm the determination of enterprises and farmers to engage in organic industries. The policies of government to ensure the development of organic industries are mainly reflected in such systems and measures as increasing financial capital investment, improving agricultural subsidies, rising the proportion of agricultural distribution, land circulation subsidies for organic agriculture, organic planting technical guidance, training and personnel training, strengthening the joint supervision of departments, strengthening unified management of organic agricultural inputs, building organic products production and marketing platform and supporting EC platform of organic businesses.

For example, Wu yuan County of Jiangxi Province developed relevant policies with thousands of acres of organic tea gardens as the goal and established the liaison matching system between the leading group of Wu yuan County Government and the units directly under the jurisdiction with its leadership on the affairs of key tea enterprises and team gardens, which provides for that each leader of the county party committee and the county government is responsible for several organic tea enterprises and bases, has regular in-depth inspection guidance to enterprises and bases and timely understands the production situation and farmer's demands of these enterprises and bases.

The county party committee and the county government also developed and released the Plan on Advancing the 2013 Work of Wu yuan County Building China's First County for Organic Tea, with detailed plans developed in terms of production resources survey, development and management of tea bases, management of input, production technology guidance and promotion, the training on the Organic Products standards and related laws and regulations, corporate inspection, publicity, incentives and other aspects, to specify responsibilities for each unit and each leader. Perfect system and strong implementation provided a strong guarantee for the development of local organic industry.

Good environment

Environmental resources are the hardware for the development of organic industries. At present, there are 54 Organic Demonstration Areas in China, where the ecological environment is generally of high quality. Most of them have relatively high cultural heritage and relatively high forest and vegetation coverage. There are basically no pollution sources there. They have totally natural advantages in the development of organic industries.

For example, Guangxi County of Shanxi Province is located on the south slope of the main peak of Qinling Mountains in the right center of China, the sole highest mountain stretching from the west to east in China. Enjoying the beautiful landscape of the Qinling Mountains and the BaShan Mountains and the natural sources of the Hanshui River, it is known as "the Pearl of Han". Guangxi County also has Crested Ibis National Nature Reserve and Evergreen National Nature Reserve. "One mountain at four seasons, different weather within 10 km", it is known as "the ecological resources treasure of Chinese animals and plants" and "the biological treasure of the world". It also enjoys the fame of "China's Central Park" and "Oxygen Bar on the Earth". At the same time, Guangxi County is also an important place of water conservation for China's South-North Water Diversion Project and Shanxi's Hanshui -Weishui Water Diversion Project. Guangxi is also a place where four endangered animals in the world- crested ibis, panda, golden monkey and takin- gather and the sole habitat for the world's rare bird crested ibis. These fames and functions all prove the superior natural ecological environment of the county.

Diverse publicities

As the synonym for food safety, the quality of organic products is much higher than conventional products. But, good products also need publicity, so efforts should be made in terms of publicity. In the information age, many county/municipal governments implement the marketing publicity mode of "physical store +sales exhibition + network", forming a complete set of sales chain. By implementing the "Going Out" strategy, they spare no efforts to build the brand image of organic products. The many governments with demonstration areas actively encourage and even take the initiative to organize enterprises to participate in important product expos, trade fairs, promotion meetings and trade talks, make full use of various media for the publicity of local organic brands and put forth effort to accelerate the development of organic brands and expand the market. Organic product producers are encouraged to strive for provincial /municipal brand-name product, "Chinese Well-Known Brand" and other brand titles to enhance the influence and popularity of organic products. A complete e-commerce system is established, centered on B2C (EC between businesses and consumers) and supplemented by B2B (EC between businesses and businesses), B2G (EC between businesses and governments) and inter-enterprise EC, to actively expand the marketing network, increase the inputs in online publicity and strengthen online publicity marketing. Based on the actual situation, efforts are increased for the publicity of local organic brands and for the marketing activities of the physical stores through various forms to enhance the popularity and reputation of organic products and win the market with consumers' satisfaction and product

reputation.

Complete investment

In order to create a favorable environment for the development of China's organic industry, localities have established and perfected the diversified investment mechanism. On the principles of “led by market, guided by government and participated by all parties”, with leading enterprises and cooperatives as the main investment bodies and supplemented by superior supports, financial investment and credit investment, multi-form, multi-channel and multi-level organic agriculture development investment patterns have been taken shape. The agriculture-related funds are integrated to focus on the investment in the demonstration areas and the infrastructure of water, electricity, road and communications facilities of the demonstration area is enhanced. By playing the leverage role of financial fund, financial capital and social capital are actively leveraged and guided to the demonstration area. The continued support of financial funds promotes the development of infrastructure, the introduction of new technologies and new varieties, development of R&D center and the implementation of other projects. Efforts are increased in the investment promotion of the demonstration area and planning is conducted carefully to deliver good projects, good policies, good environment and good services so as to attract the outside capital’s investment in local demonstration area.

Positive role of building organic product certification demonstration area in the development of organic industry regions

Innovative government management model

“The establishment of Organic Product Certification Demonstration Areas”, with its core idea of “the 'large quality' work pattern in which local governments take overall responsibility and environmental protection, departments of agriculture, quality inspection, AIC and other departments conduct joint supervision”, enables all levels of governments constant explore the new situations and new problems in organic industries in the process and promotes the innovation of government management model in the aspects of government management philosophy, way of management, management bodies and management functions.

(1) Innovation of Management Philosophy

Local governments that carry out Organic Product Certification Demonstration Areas can establish people-oriented government management thinking, adhere to the concept of development of the comprehensive, coordinated and sustainable economic and social development, constantly innovate management concepts and apply new development concepts to guide the local organic industry development and comprehensive development for economy and society. For example, Anxi County of Fujian Province takes the lead in realizing the overall exit of the construction stone industry. It has rolled out the supporting policies adapting to organic development and ecological protection, regards environmental protection and development as the focus of public financial expenditure, sets special funds for environmental protection and development and strengthens the compensations for key ecological forests above the provincial level. Efforts are made to solve the environmental issues that affect scientific development, sustainable development and people's health. The county also implements six major projects, namely “Forest Anxi”, “Ecological Tea Garden Enhancement”, “Comprehensive Management of River Basin Water Environment”, “Comprehensive Management of Key Pollution Sources”, “Ecological Restoration of Key Areas” and “Urban and Rural Environmental Sanitation Improvement”.

(2) Innovation of Management Mode

In the process of establishment, the demonstration areas make summarization to promote work while deepen and improve the way of management. The government mode has been innovated from many aspects like industrial planning, publicity initiation, brand promotion, technical guidance, supervision and management. Taking HuiShan District, Weeing of Shandong Province as an example, in the early stage of the development of the organic industry, the district was faced with the problems of traditional agriculture. Local farmers had scattered operation and applied chemical fertilizers and pesticides irrationally, which brought in big difficulties for regulation. Meanwhile agricultural secondary disasters were emerged from time to time. In order to solve this problem, HuiShan District adopted the modern agricultural management mode, including through land circulation, park-based planting management, entirely enclosing the base, setting up the isolation zone and carrying out independent planting and breeding. The organic industry parks formed are fully subject company registration and physical operation. Parks are operated in the form of company and resources are allocated in unison, with maximum operating profits achieved. Moreover, based on the management concept of industrialization, the products can be traced and the quality is assured.

(3) Innovation of Management Institutions

In the process of building the Organic Product Certification Demonstration Areas, each demonstration area, according to its own characteristics and problems, has set up the leading group headed by the major leader of the county government and established a special implementation body for the special resolution of the staff and funding issues. Guangxi County of Shanxi Province has determined the leading group of the demonstration area and set up the special leading group office that is shared by the organic production office. Departments and towns have set up their own working bodies, implemented the town head (departmental director) responsibility system and determined the responsible leaders and staffs. At the village level, organic industry and ecological brand supervisors are set. Thus, a three-level technical guidance and regulatory network takes shape in the county.

(4) Innovation of Management Functions

Governments with demonstration areas constantly improve management functions and shift the focus from administrative functions to service functions. Giving full play to the leading role of the market, the government does not take on everything and interfere with the specific operations, but is only responsible for the services in the whole process. For instance, Banzai County of Jiangxi Province established its organic food industry association in the name of the county government and sets up branches in the villages. Based on the block, it establishes the mutual aid groups to link enterprises with farmers, really achieving the development model of “leading enterprises + cooperatives + production base households”. With service as the core and guidance as the focus of work, it facilitates the development of organic industries.

Local governments attach great importance to the organic industry

The role of the government is to give real guidance and strong support, especially for the education and training for farmers, scientific research funding and equipment. At the initial stage, farmers still regard economic benefits as the main gauges. At this stage, governments should offer more economic supports to farmers, while giving pragmatic guidance in terms of ideological transformation and technical methods.

For example, Anxi County Government of Fujian Province has offered strong supports for the organic tea industry since 2011. The county finance will grant a one-time award of RMB 100,000 to those who build organic tea production base of more than 500 mu, have passed the “organic product”

certification or passed the “organically converted product” certification for 2 consecutive years and use the national “organic product” certification mark in a standard manner for its fresh products or processed products. In 2014, specific to the relatively small areas of some certified enterprises, it issued the Implementation Opinions on Comprehensively Deepening Rural Reform to Speed Up Agricultural Modernization, which provides for that the county finance will offer the enterprise that firstly obtains the organic product certification with a one-time award of RMB 30,000. At present, Anxi County has 18 organic tea production enterprises, with certified area hitting 38,358 mu and a yield of 2,407 tons. The county ranks No. 1 in China by the certified area of organic tea. In recent years, Anxi’s organic tea industry develops rapidly, which has greatly advanced the whole county to form the development boom of fine agriculture and organic production. Local government advocates improving ecology and quality and reducing area and players and has deepened the “addition and subtraction” concept in the tea industry.

The quality of certified organic products further enhanced

In recent years, the quality inspection departments of many provinces and cities have carried out the special inspection and the demonstration area supervision spot check specific to the certification mark, certification market and production enterprises of organic products, with focus on the crackdown on violations and unqualified products such as fraud, overdue and out-of-range use of organic product mark. They resolutely crack down on illegal certification consulting activities and effectively ensure the quality of organic products. They have revised and perfected all kinds of organic agricultural production technical regulations, improved the food and agricultural product certification and supervision system and improved the new mechanism of comprehensive law enforcement supervision work that is headed by certification supervision departments and collaborated by relevant departments, forming the monitoring systems at provincial, municipal, county, township and base levels, and achieving the whole-process supervision before, during and after production.

The influence of organic product certification widely expanded

Departments of quality inspection, agriculture, AIC and other relevant departments have coordinated with the governments at all levels to carry out on-site and video training on organic product certification to the supervisors as well as training on practical technologies to the conditioned and active towns, villages and farmers. Key guidance and helps are provided to organic product bases with high enthusiasm of enterprises and organizations for production, competent grassroots government organizations and tentative scale. Experts are organized to qualified counties and districts with the foundation and enthusiasm for building demonstration areas to carry out organic product certification demonstration area research and guidance, and help them do a good job and actively create a good atmosphere for the development of organic industry.

Effective way provided to protect the ecological environment and the virtuous circle for the development of ecology and economy

Rely on the high inputs of fertilizer and pesticide in the past has broken the original balance of the ecosystem. The development of the Organic Product Certification Demonstration Area provides a way for the local government to solve this problem. Local government makes overall plan on the development of the benign circulation system of the agricultural ecosystem in this county. The unified management mechanism is established for inputs, with the management problem that farmers use pesticides on their own land well controlled. Such technologies as organic fertilizer production, rotation intercropping mode and effective biological source pest control are energetically promoted through the unified publicity on a unified management model, effectively promoting the organic industry to achieve the development of agricultural economy from quantity growth to quality

growth, further solving overcapacity reclamation and blind wasteland development, reducing the trend of ecological degradation of arable lands.

More opportunities provided for the regional organic agriculture development featuring the integration between production, supply and marketing and for the enhancement of regional core competitiveness

The comprehensive development with the development of Organic Product Certification Demonstration Area as the link can overall promote the whole area planning, industry promotion, basic supports and urbanization for farmers. It can not only promote the integration of production, supply and marketing for organic products, but also combines with land consolidation to develop leisure sightseeing industry. The demonstration area can be developed into the ecological organic industry base and into a pattern of urban modernized organic industry development that is supported by leading enterprises, based on demonstration and centered on farmers. In the interaction of “new urbanization” and “new industrialization”, the development of organic product production, new urbanization and new industrialization is promoted, really making the organic industry multiplying.

Means indirectly provided for farmers to increase income and be lifted out of poverty

The governments and relevant departments with the demonstration areas, in order to guide farmers to stick organic production with market as the orientation, will more actively expand sales channels for farmers and open the market, making organic products reflect their high quality and environmentally friendly value, and enabling the farmers engaged in organic production to save spending on pesticide and fertilizer and get higher product values and relatively low gains from cash inputs. In this way, the purpose of increasing incomes for the farmers engaged in organic production and of significantly increasing corporate benefits can be realized. A number of demonstration areas combine organic product certification with targeted poverty alleviation to provide one-to-one services and point-to-point helps. Through the promotion of organic product demonstration, linkage mechanism can be achieved to show, guide and help farmers. This enables farmers to see the benefits of the organic product production and improves the income of farmers, providing an economic, environment-friendly and low-cost way of development for lifting the poverty.

In short, scientific development, green production and low-carbon life have become the objective requirements for the future development of the whole society. The development of organic products carries the function positioning of ecological conservation and represents the life direction of people’s pursuit to food safety. The establishment of organic product certification demonstration area provides an opportunity and carrier for the counties and cities intending to develop organic industry. The establishment of organic product certification demonstration area enables local governments to explore a win-win way of developing economy and ecology that is suitable for the reality of the area. This has a very important role in building a resource-saving and environment-friendly society, actively changing the mode of development and building a sound ecological system.

Typical experience from the establishment of organic product certification demonstration areas

Experience from the establishment of organic product certification demonstration areas in Sichuan province

Overview of the establishment of organic product certification demonstration areas in Sichuan province

Sichuan Province is located in the subtropical monsoon climatic zone. In summer, the sunlight

is adequate and the rainfall is abundant here, warm and humid; in winter, because of its basin landform, there are many cloudy days and the temperature is relatively high, which makes it a suitable place for the growth of creatures. Sichuan Province is one of China's three major forest areas and one of China's five major pastoral areas, quite rich in ecological resources. Diverse animal and plant resources and rich labor force provide unique superior conditions for the production of organic products. Since the application review of the first batch of the establishment of the Organic Product Certification Demonstration Areas in 2011, for five consecutive years, there are counties and cities in Sichuan Province having applied and being approved as Organic Product Certification Demonstration Areas. So far, Sichuan has built two National Organic Product Certification Demonstration Areas (Xichong and Pujiang), five state-level Organic Product Certification Demonstration Areas (including Qingchuan) and 12 provincial-level Organic Product Certification Demonstration Area (Hongya).



Figure 87: Percentages of output values of organic products of organic certification demonstration areas and organic product demonstration areas in the gross output value of agriculture of whole county

By the end of December 2015, the total number of organic production enterprises in Sichuan Province reached 818, with 937 certificates for organic product certification or certificates for organic conversion and the total physical products reaching 38.7 tons. The certified area exceeded 1.1 million mu, accounting for 1.1% of the province's total area of arable land. The annual output values of organic products hit RMB 2.56 billion, with the values of organic products of Organic Product Certification Demonstration Areas and Organic Product Certification Demonstration Areas hitting RMB 1.613 billion. The values of the organic products of Xichong accounted for 24.8% of the county's total agricultural output value, and the proportion for Naxi County and Pujiang County also reached more than 10% (Figure 87).

Due to the specific geographical environment of Sichuan Province, the characteristic products of the Organic Certification Demonstration Areas and Organic Product Demonstration Areas have certain homogeneity. Six districts and counties regard tea as the main organic product to develop, and organic pork and organic peach are also listed as the mainly developed organic products of three counties.

The Establishment of the Organic Demonstration County provides a eradicable development model for targeted poverty alleviation. The approved Organic Certification Demonstration Counties and Organic Product Demonstration Counties in Sichuan are mostly typical agricultural counties (Anglican County is a state-level poverty-stricken county), and these areas once lagged in economic development, faced with prominent people's livelihood problems and all kinds of contradictions. However, taking the opportunity of developing organic industry, these districts and counties have gradually found a way to shake off poverty with building a sound ecological system and developing

economy at the same time. Throughout the entire work, the demonstration areas of Sichuan actively explore and boldly practice ways to develop and have accumulated a large amount of good experience in the development of organic industry. But, there are still some problems.

Main experience

(1) Planning first

Each demonstration area has developed the organic industry development plan in line with its actual situation to ensure the sustainable development of the county's organic industry. Fund guarantee policy is strengthened, incentives and subsidy policies as well as relevant policies supporting the development of modern agricultural projects are developed for the development of organic agriculture, and financial investment and agriculture-related funds and project integration efforts are increased to guide and focus on the development of organic agriculture. Taking Qingchuan County as an example, in consideration of the reality of Qingchuan, the county prepares the Development Planning for Organic Agriculture and the Implementation Plan for the Development of Organic Agriculture, with the implementation steps detailed and measures clarified. It formulates a series of supporting documents including the Implementation Opinions on Accelerating the Restoration and Development of Agricultural Characteristic Industry, County Quality Award Management Method, Ten Suggestions on Accelerating Strong Eco-Industrial Counties and Preferential Policies for Investment Promotion, providing a good policy environment for the development of organic industry and ensuring the continued, standardized and healthy development of organic industry.

(2) Strong supports

1) Policy support. Each demonstration area has established the organic production demonstration county leading group headed by a main leader of the county government, set up the organic industry development office and determined staff and funding to comprehensively take responsibility for the development of the organic agriculture of the county. Taking Pujiang County as an example, it has established the organic production demonstration county leading group headed by a main leader of the county government and set up a deputy bureau-level institution – Pujiang County Organic Industry Development Office to be responsible for the development of organic agriculture of the whole county. Subsidiaries and awards are given for key links including base infrastructure construction, certification fees, inputs and product marketing to promote the healthy development of organic agriculture. At the same time, the county runs the “Green Pujiang, Organic Agriculture” Legal Service Village Big Class and sets up “Green Pujiang, Organic Agriculture” legal service team to spread the life concept of organic agriculture and low-carbon life in 12 towns of the county and extensively create the atmosphere of organic industry development.

2) Technical support. The demonstration areas, according to their actual circumstances, take measures to strengthen the service guidance and strengthen technical support. Among them, Anglican County, through the promotion of standardized development model, has strengthened the technical support. Through the exploration and promotion of such development patterns as “Company + Base + Farmer + Standards” and “Company + Cooperatives + Base + Standards”, organic industry is standardized and specialized on the technical level. The whole county has established 62 tea plantations implementing industrialized operation and 6 tea businesses with investment over RMB 5 million. The advanced, intermediate and elementary technical training systems and online information exchange systems at township and village levels are established. Organic technical experts are employed regularly for technical training and guidance. As a result, key measures needed for the ecological organic development are made out. More than 100 organic training activities of various kinds were held throughout the year.

Pujiang County regards organic kiwi technical services as the industry focus. In 2015, it established

a three-tier service system of “one center, one station and one office” at county, town and village tier, with kiwi integrated service station established in the towns of major producing areas. Kiwi technical service comprehensive offices are established in main producing villages or areas to timely provide soil improvement and agricultural means of production distribution. As for the comprehensive services in the aspects of pest control, technical consultant and inspection and testing, so far, the whole county has totally established 12 township-level comprehensive technical service stations and 47 village-level comprehensive technical service stations.

(3) Standardized development for the base

The demonstration areas regard building standardized organic product demonstration base as their main work. Among them, Xichong County mainly focuses on the cyclic development of “livestock and poultry - biogas residue - fruit and vegetable” and regards mechanism innovation and technology support as the driving force to promote base size and quality of the development. To grasp the key of project promotion, it invested RMB 1.45 billion from the integration of small water conservancy projects, standard farmland, land remediation, returning farmland to forests and modern livestock and other agriculture-related projects in key bases and leading enterprises, completed the land adjustment of 200,000 mu of lands, newly built 420 km channels, 300 km industrial roads, and 1,500 mu steel shed. By 2015, it had established 26 pig breeding communities and 1 national first-class intelligent boar farm with 3,000 boars. With organized management as the production organization guarantee of organic agriculture, the county standardizes the development of leading enterprises, special cooperative organizations, farmers with large-sized specialized farms, family farms and other new business entities. The best resources are allocated to the best businesses.

Anglican County, in the “relatively concentrated and appropriately decentralized” principle, has built, in high standards and high quality, four ecological tea demonstration plantations, namely Wuquan, Gaoyang, Mumen and Hualong, each with an area over 10,000 mu. It forges an organic tea industry park that covers 50 villages in 12 towns, with tea plantation areas hitting 200,000 mu. Driven by the development of organic demonstration bases, in 2015, the whole county produced 3,400 tons of tea, with an output value of RMB 760 million. The highest purchase price of fresh tea leaves hit RMB 120/kg and the highest income of individual farmer from fresh tea leaves hit RMB 100,000. Good rate of return enhances the enthusiasm of farmers to grow tea. As of 2015, there were 2,456 mu of tea plantations and 1,800 mu of kiwi plantations in the whole county, and nearly 15,000 mu of *Eucommia ulmoides* passed the organic certification. The annual output value of organic products achieved RMB 110 million.

(4) Perfect development for system

The demonstration areas have established quality control and regulatory systems and traceability mechanism to ensure the healthy development of organic industry.

1) Sound Standard Systems

Anglican County, on the basis of following the industry standards for product quality, production technology sections and origin environmental conditions, in combination with the reality of tea and kiwi cultivation and processing in Anglican, has formulated Tea Origin Environment of MicangShan and Tea Planting Technical Specification of MicangShan and Other Local Standards and collected and collated lots of national and industry standards for organic products, to perfect tea and kiwi standard systems, with systematic regulations detailed in the aspects of planting conditions, nursery, planting, fertilization, management and protection, pest control and harvesting. Boxing County practically strengthens its cooperation with Sichuan Agricultural University, Northwest A & F University and other colleges and universities. It cooperates with colleges and universities in arranging funds and projects, studying the practical technologies of organic production and solving

the actual problems in production. It revised 26 organic product production specifications of 14 classes and developed 3 local standards including Organic Potato Production Technology. It has formed the complete system for the organic production and formed such government documents as Management Approach of Organic Agricultural Inputs and Implementation Plan for Building and Developing the Organic Agriculture Demonstration Base of Boxing County.

2) Complete Detection Systems

Xichong County, for example, has established Nanchong County Agricultural Quality Inspection Center Xichong Sub-Center to improve the quality detection means, focus on strengthening the mandatory testing of base agricultural production environment, inputs and listed products and achieve the whole-process monitoring and regular notification. The county has improved the monitoring and testing system based on the county agricultural product quality monitoring and testing center, supported by township agricultural products quality and safety service station testing room and supplemented by base and market fast detection. In 2015, more than 2,000 samples were tested, with pass rate hitting 98.5%.

3) Three-Dimensional Supervision System

Zhongjian County, for example, from time to time, carries out the joint law enforcement of such departments as quality inspection, agriculture, animal husbandry, water and environmental protection to conduct comprehensive supervision and inspection of the conformity of organic product certification activities, resolutely bans foreign investment detrimental to Tongjiang's ecological environment and resolutely stops the projects unfavorable for the development of the organic industry of Zhongjian.

4) Sound Traceable System

Xicong County, for example, through guiding enterprises and specialized cooperative organizations, has established agricultural operations records to improve the records of inputs purchase and use and pest control situation, conduct fixed-point slaughtering of pigs, ducks and chickens and implement centralized quarantine system. Standardized bar code is used for organic product identification. Through the unification among production technology, input products, product acquisition, product identification and brand sales, the entire production link and process of organic agriculture are controlled to ensure strict standard implementation.

(5) Adhere to market-oriented operation, achieve brand driving effect and strengthen the development momentum

Xichong County Government has actively guided the industry and adheres to "production for sales and sales for earning". Xichong County has built two centers (Experience Display Center and Cold Chain Logistics Center) and adopts the mode of government support, business entities, market operations, self-management and self-financing". It has built information, logistics and clearing systems and promoted the preservation, refrigeration, testing and transportation supports. As of 2015, it has established 12 Xichong Organic Agricultural Product Living Flagship Salons in the first-tier cities like Beijing and Shanghai as well as 120 organic agricultural products flagships in the high-end communities of the first-tier cities. It implements brand driving strategy and has created 12 high-end brands including "Milk Pig" and "Organic Lotus Tea". "Xichong Erjingtiao Pepper" is registered by the State Administration for Industry and Commerce as an national geographical indication protection product certification mark (Figure 88). Xichong County Organic Food Exhibition Center was put into operation in October 2013. Through integrating the sales network and the flagship stores in first-tier cities, its sales have exceeded RMB 26 million.

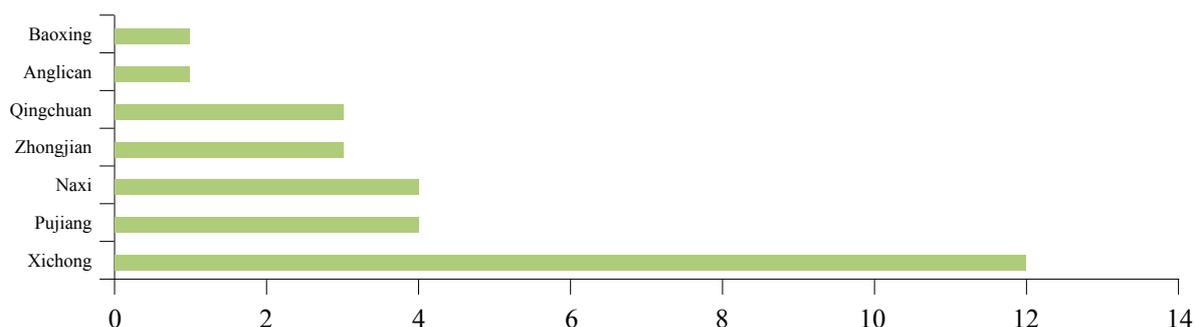


Figure 88: Organic brands of organic certification demonstration areas and organic product demonstration areas

Pujiang County actively cultivates market players and has cultivated 6 national hi-tech enterprises. Enterprises in the county have totally obtained 131 patents. The county deeply implements the driving model by “regional brand + corporate brand”. In 2014, the brand values of Pujiang Queshe (Queshe is a kind of green tea), Pujiang Kiwi and Pujiang Hybrid Citrus reached RMB 1.423 billion, RMB 1.209 billion and RMB 0.885 billion respectively. Pujiang Queshe has successfully applied for Well-Known Brand in China and been included in the Sino-Europe Mutual Recognition List.

(6) Adhere to ecological priority and promote interaction between the three industries

Boxing County, has built an organic industrial park integrating industry, tourism and health care. Through building organic agriculture industrial park, the county forges a characteristic industry chain to increase farmers’ income continuously and achieve huge economic, social and ecological benefits.

In the process of organic industry development, Xichong County, relies on organic food in-depth processing to develop industry and vigorously promotes the bio-pharmaceutical, energy saving and environmental protection and other new industries. Chongqing Taiji Group settles the largest medicinal slice industrial production line of the West in Xichong. Xichong County promotes the mode of “organic industry + tourism + farm leisure” and constructs Gulou Taoyuan New Village and other boutique rural tourism destinations, promoting the healthy and interactive development of the three industries.

Pujiang County, relying on good ecological environment and solid industrial base brought by organic industries, successfully held five agricultural festival events in 2015 like Tea-Picking Festival in March, Cherry Festival in May. It drives the beautiful urban and rural landscape based on green agriculture, with rivers and roads as the landscape corridor and featuring a mutual penetration between urban green space and rural agriculture. It achieves a virtuous circle of ecological and economic development and forms the green industry system featuring the linkage development of the three industries.

(7) Rely on the organic industry to build happy and beautiful villages

Xichong County builds “new village of materials” and “new village of people” side by side. As of 2015, the county had completed four new rural complexes, 61 new rural habitats and improved and transformed 163 old villages, with 27,000 farmers benefited. Shuanglongqiao of Fengming, Shufangshan of Xingyi and other seven new villages are named as “National Livable Villages”. In the development process of the organic industry, Xichong Government encourages farmers to fit in the development of organic agriculture in such ways as pooling of land as shares, collecting farmers’ land together then renting to companies and working in the organic businesses nearby. More and more migrant workers choose to stay at their hometowns to develop organic agriculture. They can

live a happy life at home by working for leading enterprises or planting organic vegetables in small areas. Building beautiful new villages with the development of the organic industry as the core has effectively solved the rural issues concerning agriculture, countryside and farmers, left-behind children and many other social problems and enhanced the sense of the happiness of farmers.

Problems during building process

Sichuan Province obtained a large amount of experience and also found the problems in the process of building Organic Product Certification Demonstration Areas :

(1) Small production scale and irrational product structure

Compared with the total amount of agricultural products and foods, the development scale, total production and development area of organic industry of the Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas still account for a relatively small percentage. In addition, the variety of organic foods is single and product structure is irrational. According to statistics, more than 75.6% of the organic food products in Sichuan Province are primary planted products such as vegetables, fruits, raw grains and wild collections, and only 11.4% of the products are livestock and poultry meat products. The imbalance between planting and farming makes organic agricultural producers unable to get rid of dependence on foreign inputs. Moreover, low processing degree, short industry chain, single variety and low added values of organic foods restrict the development of organic food industry.

(2) Incomplete industrial technology and service system

Certification is the driving force and important means to promote the development of organic foods. The transition from conventional agriculture to organic agriculture faces many problems on pest control, soil fertility, variety breeding, quality of product and efficiency of production. Currently, on the one hand, the Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas are lack of a large number of institutions and personnel specialized in the research of organic food; on the other hand, a large number of professionals for building organization and management systems in organic product market are shorted, out of Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas . Real connections and perfections have not been achieved for many organic industry chains including organic inputs, organic production and processing equipment, organic product warehousing and transportation and organic product sales. The entire industry is still lack of adequate technical supports and service system supports.

All levels of governments should actively guide the industry and start from the overall planning to actively develop deep processing industry for organic products, extend the organic industry chain of the area, enhance the value chain, broaden the income chain, promote the transformation and upgrading of main agricultural products from production, storage, initial processing to deep processing and accelerate the formation of the development trend of complete industrial chain, diverse functions and multiple patterns. They should introduce in policies to encourage the leading enterprises of agricultural industrialization to actively undertake many jobs in the development of organic industry like guiding production, deepening processing, extending market, increasing value added of organic products and promoting technological progress. They should strengthen the cultivation of existing workers from organic industry so as to enable the existing technical staff from organic industry to grasp the development trend of industry development, forward-looking production technologies and the development direction of product quality. They should pay attention to the introduction of talents, increase fund guarantee, create the social environment reflecting the values and conducive to the growth of innovative talents, and establish the corresponding incentive mechanisms to attract more professionals of organic industry to enrich all links of the organic

industry chain of the area. They should further strengthen the efforts to develop network technology services, comprehensively establish organic agricultural technology information websites (stations), make full use of modern information service means and timely and effectively transmit and promote organic technologies. Problems as small scale of production, irrational product structure and incomplete industrial technologies and service systems should be overcome in constant practices so as to promote the sound and fast development of organic industry of the Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas.

Experience from establishment of organic product certification demonstration in Zhejiang province

Overview of establishment of organic product certification demonstration area in Zhejiang province

Zhejiang Province is located in south of the China's Yangtze River Delta and is the birthplace of Wu Yue culture and Jiangnan culture. Within its territory, there are the Hemudu culture dating back to 7000 years ago and eight water systems including Qiantang River, Oujiang Qiantang, Lingjiang Qiantang, Tiaoxi Qiantang, Yongjiang Qiantang, Feiyunjiang Qiantang, Aojiang Qiantang and Beijing-Hangzhou Canal (Zhejiang section). In addition the Top Four Lakes, namely West Lake of Hangzhou, East Lake of Shaoxing, South Lake of Jiaxing and Dongqian Lake of Ningbo, and Thousand Island Lake, are located in the provinces. It is a typical land of landscape with rivers, fish and rice, known as the "Home of Silk" and the "Land of Fish and Rice". Zhejiang is one of the most economically active provinces in China, with disposable income per capita ranking No. 1 in the country for years. Good natural resources and economic scale make Zhejiang have a higher starting point and more confidence in the development of organic industry.

At present, the total number of certified organic certification enterprises in Zhejiang Province has reached 400, with 738 certificates for organic product certification or for organic conversion. The certified area of organic products hits 2.12 million mu, and its annual yield of organic products hits more than 100,000 tons. The number of organic product certificates of Zhejiang Province accounts for 5% of the national total. Among the top ten provinces, Zhejiang Province is the smallest province by geographical area but a province with the largest number of organic product certificates by unit geographical area. Jiande, Wuyi, Chunan and Kaihua of Zhejiang Province totally obtain 164 organic products certificates, accounting for 18% of the province's total. On the basis that Zhejiang Provincial Administration of Quality and Technology Supervision takes effective measures to strengthen the organic product certification supervision, Zhejiang Province has established four Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas in the past five years, namely Jiande, Wuyi, Chunan and Kaihua.

Zhejiang Province is rich in agricultural resources. Green tea, organic fish, Dendrobium, pecan, fruit, etc. enjoy high popularity and influence at home and abroad. For the organic certification of the enterprises in the four Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas, the development of organic products are closely around the above characteristic industries, with the further development of organic demonstration areas, the organic industry has gradually become an important agricultural pillar industry for local governments.

Main experience from the establishment of organic demonstration areas

(1) The provincial bureau offers active guidance and the government attaches great importance

Zhejiang Provincial Administration of Quality and Technology Supervision attaches great importance to the establishment of Organic Product Certification Demonstration Areas. For the five years, it has conducted on-site investigation on the establishment in Hangzhou, Jinhua, Quzhou and

other places for times. It had lots of contacts for coordination and communication, held symposiums to listen to the opinions of relevant municipal and county governments and such departments of quality inspection, agriculture, environmental protection and AIC, visited certification bodies and certified enterprises to understand the situation, guide the work and promote the establishment of Organic Product Certification Demonstration Areas, making local governments realize the benefits and meanings of developing organic industry and regard the establishment of Organic Product Certification Demonstration Areas as an important task to help local governments transform the mode of agricultural production, protect and improve the ecological environment, meet different consumer needs, promote agricultural efficiency and increase farmers' incomes. The Organic Product Certification Demonstration Areas and the Organic Product Demonstration Areas in Zhejiang Province have established the working leading groups headed by major leaders of local governments and set up organic industry development management coordination bodies to take comprehensive responsibility for the development of organic industries under the jurisdiction.

Among them, Jiande City regards the establishment of the demonstration area as a key work. The mayor is personally "at the helm" and acts as the head of the work leading group, responsible for solving the major issues and the overall problems during the establishment process. In terms of organic industry management, leading group office is established to build the joint meeting system with such departments as agricultural office, agriculture & forestry & water and environmental protection, which emphasizes the coordination among departments, achieving the co-working of supervision and services. The healthy and orderly development of the organic industry is ensured, and the establishment of the demonstration area is progressing steadily. In terms of supervision, the government includes the establishment of the organic demonstration area into the "six leading work" ("important work, key projects, major projects, investment promotion, petition case investigation and problem tackling"). The deputy director of the Provincial People's Congress and the deputy mayor supervise the working process.

Wuyi County has set up the leading group for the establishment of National Organic Product Certification Demonstration Area, which is headed by the county chief and consists of more than 10 related functional departments. The leading group has an office (located at the county market supervision bureau) and arranges a special venue as the permanent office for the leading group to strengthen the organization and coordination for the establishment of the demonstration area and ensure the work effectively done. The leading group holds joint meeting on a regular basis to organize the formulation of relevant policies, measures and management methods and actively coordinate and solve the problems and contradictions concerning the development of organic industries; it makes timely summary analysis on the completion of project implementation by relevant functional departments and organic enterprises and exerts itself to the utmost to do a good job for the establishment.

Chunan County, closely adhering to the development orientation of "revitalizing the county with lake and integrating into the city", regards ecological and environmental protection as its first responsibility. It makes persistent and unremitting efforts and steadily carries out building the ecological system. In 2013, in order to further change the mode of agricultural development and accelerate the development of eco-organic agriculture, it set up the leading group for the establishment of National Organic Product Certification Demonstration Area. The head of the group is the county chief and the deputy heads are two deputy county chiefs respectively responsible for agriculture and market supervision. Its members involve more than ten functional departments including market supervision, agricultural office, finance, agriculture, forestry, development and reform. In order to ensure the normal operation of the leading group, , in the case of local financial difficulties, special fund of RMB 2 million is arranged as the overhead expenses for the less

developed county (city) in Zhejiang Province.

Kaihua County has established the organic agricultural product cultivation work certification leading group. The head of the group is the deputy secretary of the party committee and the deputy head of the group is the officer from the county government who is responsible for such work. Its members involve relevant department heads. As the member units, the agricultural bureau and market supervision bureau of the county comprehensively participate in the development of the county's organic agriculture and plan, guide and supervise the brand creation. The towns, in combination with their own realities, establish the corresponding organizational structure and formulate the specific work implementation plans to ensure the implementation of the county's organic agricultural product cultivation certification.

(2) Well-designed planning

Planning goes before industrial development. Jiande, Wuyi, Chun'an and Kaihua, in combination with the local industrial characteristics and the county overall planning, has well designed the organic industry development plan in line with local development.

Jiande City, in time of formulating development plan, combines the work of building Organic Product Certification Demonstration Area and National Ecological Demonstration Area and Provincial Ecological City together and integrates the sources of all parties to jointly participate in the work, greatly improving the feasibility and effectiveness of planning. Earnestly implementing the planning related contents and focusing on the actual development of the industry, Wuyi County invited such units as Zhejiang Academy of Agricultural Sciences and Hangzhou WIT Assessment Co., Ltd. to re-evaluate Organic Agriculture Development Plan of Wuyi County 2008-2018 to ensure its timeliness. Relying on good natural resources, Chun'an County focuses on the organic industry development plan "Around Thousand Island Lake" and clarifies to build the "One Belt and Four Areas" industrial pattern. "One Belt" refers to the organic farming aquaculture zone of the surrounding towns centered on the water resources Thousand Island Lake; "Four Areas" refers to the organic tea area, organic camellia area, organic fruit area and organic hickory area, relying on the geographical advantages. Kaihua County, focusing on the long term development and considering local situation, prepares the ten-year planning for the development of organic industry in line with its reality, breaks down it and issues the Notice on Printing the Three-year Action Plan for Organic Agricultural Product Cultivation Certification of Kaihua County, which clarifies the development direction, work initiatives and specific requirements at current stage and aims to promote the steady, sustained and healthy development of the organic industry of Kaihua County.

(3) Guidance for targeted service

According to the concentration of organic products enterprises, in 2012, Zhejiang Provincial Administration of Quality and Technology Supervision determined nine key counties for organic product certification, implemented RMB 750,000 of special supervision subsidy and asked localities to carry out targeted cultivation and supervision. It pays attention to the improvement of business knowledge related organic product certification and ability of grassroots supervisors. Each year, it holds at least 1 annual organic product certification supervision knowledge training course. To promote close farmer-supermarket cooperation and market expansion of organic products and other high-quality agricultural products and promote the healthy and sustained development of organic industry, Zhejiang Provincial Administration of Quality and Technology Supervision worked with Zhejiang Provincial Department of Commerce to hold the second session of the Yangtze River Delta Farmer-Supermarket Fair, effectively promoting the close production-sale cooperation, exchange of information and efficient circulation of products between production enterprises and circulation enterprises of organic products from different regions. Local governments of the demonstration

areas of Zhejiang Province, in order to promote the development of organic industries under the jurisdiction, have introduced support policies, including organic certification subsidies, subsidies for developing organic standardization and fertilizer subsidies for organic commodities and so on.

Jiande Municipal People's Government promulgated the Opinions on Accelerating the Development of Modern Agriculture. With the modern agricultural development ideas of "driving through policies, leading enterprises, projects, brands and reform", it fully takes the unique advantages of agricultural resources and ecological environment, centers on developing eco-cycle agriculture, efficient facilities agriculture and characteristic fine agriculture and relies on the development and improvement of competitive industries and key projects, agricultural boutique garden, the brand promotion of "Jiande Fruit and Vegetable Paradise", the effective operation of "Alibaba Jiande Agricultural Food House", the promotion of regional agricultural product common brand and the development of new forms of economy to advance the development of organic agriculture industry. It not only lists the special subsidy funds in the subsidy funds (for the subsidy of organic enterprise certification funding, RMB 30,000 for domestic organic certification and RMB 10,000 for foreign organic certification), but regards organic certification as a priority condition in terms of agricultural project implementation and tilts the subsidy policy towards the enterprises obtaining organic certification. The proportion involving organic enterprises in the agricultural support funds rose from 35% in 2012 to 50% in 2014, promoting to a large extent organic enterprises to become better and stronger.

Wuyi County focuses on developing organic tea industry and increases year by year the capital supports for the improvement of tea tree variety transformation, the standardization of tea plantations, tea pest control, agricultural chemical inputs management, processing plant upgrading and brand building in the whole county. In 2015, it only arranged RMB 3 million for the support for key projects of the organic tea industry, more than RMB 4 million for developing tea base, RMB 1 million for modern equipment and more than RMB 6 million for brand building. In the past three years, more than 30 million had been inputted to support the organic industry according to plan.

Chun'an County has successively rolled out more than 10 support polices including the Implementation Plan of Chun'an County to Establish "National Organic Product Certification Demonstration" Area. According to statistics, in 2013, 2014 and 2015, the county finance respectively subsidized RMB 330,000, RMB 940,000 and RMB 1.5 million for organic enterprise certification and respectively RMB 1.95 million, RMB 3.71 million and RMB 4.15 million for commercial organic fertilizer. To protect the ecological environment of Thousand Island Lake, it respectively inputted RMB 425 million, RMB 1.12 billion and RMB 1.287 billion as the environmental protection funds in the past three years.

Since 2014, the party committee and government of Kaihua County have increased investment and replaced subsidy with award for organic agricultural product cultivation certification. It plans to arrange RMB 6 million of special funds for organic agricultural product cultivation certification, promotion and technical training from 2014 to 2016. Replacement of subsidy with award is focused on organic agricultural product certification fee, window sales exhibition and display of the products and organic agricultural products passing organic product certification, selection of top ten organic brands, building of organic villages and towns, organic base pests and green control, soil fertility, establishment of demonstrative organic farms, establishment of valley organic economic belt and holding organic agricultural product fair.

(4) Active participation by enterprises

Since localities start the work on building National Organic Product Certification Demonstration Area, enterprises actively participate in the work, with such indicators as the number of enterprises

Wuyi County, through building demonstration area, has gradually formed a development mechanism highlighting government leading, department linkage, leading enterprises driving and full participation. Management system and government support policies directly benefit the people and directly drive the development of leading organic enterprises and the rapid growth of small and medium-sized organic enterprises. At the same time, building demonstration area further enhances the confidence of export enterprises, drives the transformation of a number of export processing enterprises towards self-production and self-sales, with the export model of “leading team and business group”, opening a new page of agriculture product export based on the organic tea.

In Chun'an County, the number of enterprises that have obtained organic product certification hits 39, with 54 certificates (including 14 enterprises of organic conversion products, 2 enterprises with foreign organic product certification with 4 certificates), with 42,132.4 hectares certified areas, 10,278.15 tons yield and 510.05 million of output value. At the beginning, there were 17 certified enterprises, 41,839.63 hectares certified areas, 4,429.95 tons yield and RMB 179.042 million of output value, respectively increasing 129.4%, 15.9%, 132% and 185%.

Kaihua County regards the vigorous cultivation of organic agricultural products as a powerful starting point and the cultivation of organic products as an important breakthrough of kicking off the agricultural brand building. It has developed 38 organic enterprises, with certified area hitting 75,000 mu. The certified products include tea, camellia oil, edible fungi, clear water fish and so on. There are more than 7,000 mu of organic tea and more than 65,000 mu of organic tea oil.

(5) Diverse regulatory methods

Zhejiang Provincial Administration of Quality and Technology Supervision, on the basis of full research and in combination with the actual situation of Zhejiang Province, develops the whole province's agricultural product certification supervision and inspection plan each year, which focuses on the inspection of the certified organic products closely related to the daily life of consumers such as fruits, vegetables and meat, defines the purpose, time, scope and key points of inspection and the post-processing of illegal and rule-violating acts to make the plan with strong operation. Cities, in accordance with the plan of the provincial administration, put forward the targeted corresponding implementation plans. The harmonious linkage between provincial and municipal bureaus enables the certification supervision and inspection of foods and agricultural products (organic products) solidly advanced in an orderly manner. The regulatory authorities of demonstration areas also combine with their regional characteristics to give full play to their working functions and innovate a lot of regulatory methods.

Jiande City focuses on the departmental linkage to form the joint efforts. It establishes the linkage mechanism to advance the development of the organic industry, which segments the work to build demonstration area and specifies the responsibility of each department. Functional departments take full use of human and material resources to earnestly perform their duties and focus on both supervision and services to ensure the healthy and orderly development of organic industry and steadily advance the work of building demonstration area. It has established the joint meeting system of market supervision, agricultural office, departments of agriculture & forestry & water, environmental protection and other departments and carries out regular evaluation on organic industry planning, organic production management effect and the integrity of organic products producing enterprises, promoting the coordination between departments and achieving concerted efforts.

Wuyi County pays attention to process management and achieves whole-process traceability. The county's agricultural product quality and safety monitoring information network actively connects with the provincial agricultural product quality and safety traceability platform to include organic

production enterprises or organizations and the demonstrative professional cooperatives above the county level and other production entities into the information base, achieving big data and big supervision. The traceability system is improved. It implements the origin exit of organic producers subject to the availability of management system, special staff, production record, quality inspection and product identification. It takes the lead in researching the county-level agricultural product quality and safety traceability information platform to the whole-process monitoring of the links of organic product inspection and testing, fresh tea leaves processing, picking and purchase, pesticide use and fertilization and makes the base cultivation and whole-process production traceable. 29 organic production units and other 37 production entities in the whole country have established a traceability information platform and implemented QR code quality and safety entity traceability. Traceability supervision is improved. Standardization and supervision are effectively strengthened for organic enterprise planting processing records, daily management records and label identification use. Spot checks are conducted to the use of electronic systems, accounting records and traceability platforms of the dealers of agricultural means of production to ensure the standard purchase and sales of pesticides.

Chun'an County highlights the development of “three networks” to standardize the development of the industry. First, set the market access network to standardize certification. It takes the lead in carrying out organic product certification bidding in Zhejiang Province. Through bidding and tendering, OFDC and other four certification bodies have become the partners to build the Chun'an County's Organic Product Certification Demonstration Area. Second, optimize the technical help network to boost enterprises by organic products. The information resources advantages of the provincial and municipal standardization research institutes are fully relied on to carry out standard services; relying on the county's food and drug inspection and testing center, it further enhances the detection capacity of organic products. At the same time, it also carries out the tripartite mutual recognition work of product inspection report. From RMB 10 million of agricultural inspection funds yearly, a special part is taken for the product inspection of all organic enterprises, effectively reducing the burden on enterprises and achieving the certification and quality supervision of certification bodies and certified enterprises. Third, strengthen the service supervision network to force enterprises to have self-discipline. Integrity evaluation at three levels (A, B and C) are implemented to organic enterprises, and the results of evaluation are directly pegged with administrative supervision and government incentives, forcing the certification bodies to tighten certification and quality of certification and certified enterprises to have integrity management and standardized development.

Kaihua County focuses on the combination between industry agriculture and rural tourism to enhance the added values of products. It vigorously develops the leisure tourism brands combining rural development and tourism. It has successfully built a number of characteristic and demonstrative organic production bases integrating planting, leisure, creativity and other elements, like Yuncui Tea Industry, MuShannong and Weiyi to further improve the connotation and charm of the county's modern urban agriculture, achieve the changes from producing areas into scenic areas, farmlands into parks and products into gifts” and promote the interaction among the three industries. Relying on good ecological resources and solid industrial base, Kaihua County has successfully held a series of agricultural festival events like Longding Tea Festival, Rape Flower Festival, Camellia Oil Pressing Festival, Water Fish Culture Festival, Bamboo Culture Festival, Loquat Festival and Imperial Chrysanthemum Festival. Each event combines organic agriculture with tourism elements, enabling the tourists to enjoy the “organic feast” while appreciating the charming scenery and experiencing characteristic event.

In 1990, two tea plantations in Lin'an, Hangzhou, Zhejiang Province obtained the organic

certification of the Netherlands SKAL. This was the first time that Chinese farms had obtained organic certification. It can be said that China's organic industry started in Zhejiang. Next, Zhejiang will continue to adhere to the development concept of "lucid waters and lush mountains are invaluable assets", adhere to the combination between results consolidation and deepening and further increase the efforts in building Organic Product Certification Demonstration Area; it will adhere to the combination between government guidance and market dominance to set up the benchmark of organic products production and certification and further enhance the organic industry; it will adhere to the combination of industrial integration and urban development and achieve a benign interaction between industrial transformation and environmental protection to promote the big development of ecological economy.



About Beijing Organic and Beyond Corporation

Founded in 2007, as a whole value chain supplier, Beijing Organic and Beyond Corporation (OABC) has achieved a fast growth and become a leading organic food company in China. OABC is committed to organic agriculture, respect the value of life, advocate and promote the healthy, moderate and sustainable life style, and support more and more people to share good life.

OABC has successively provided the organic foods to more than 500,000 families with home delivery service in Beijing, Tianjin, Shanghai, Hangzhou, Guangzhou, and Shenzhen in China since 2007.

The team of OABC organic techniques consists of OATC (Organic Agricultural Technology Center) , Product Bases Dept., Global Sourcing Dept., Organic Food Research Center and Quality Control Dept. To guarantee the implementation of OABC Quality Control System, OATC employs more than 30 staff with master degree or doctor degree in agronomy, edaphology, ecology, tea science, horticulture, zootechnics, aquaculture science, seeds science and pest control study. OATC translated the *World of Organic Agriculture* into Chinese to introduce update data to people who are interested in organic sector for six successive years, which not only achieved significant social effects, but also built a bridge between China and the world.

Health, Ecology, Fairness and Care, the four principles of IFOAM, of which OABC is proud to be a member, are also the guidance integrated in our every-day hard working. We hope through our free organic food home delivery service more people have the opportunities to enjoy healthy food and are willing to take the responsibility to preserve our motherland.



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