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Study:

China's Organic Agriculture and Food Sector

By Dr. Eva Sternfeld

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Table of Contents

1. Introduction	3
2. The early years	5
3. Development of a regulatory framework	6
4. Present status of certified organic agriculture in China	9
5. China's domestic organic market.....	10
6. Export of organic products.....	12
7. Import of organic products	13
8. Challenges and chances	14
References	15

List of Figures

Figure 1. Ten countries with largest area of organic agricultural land 2019. Source: FIBL 2019	3
Figure 2. Retail sales in billion Euro. Source: FIBL 2019.....	4
Figure 3. Global market for organic food. Source: FIBL 2021	4
Figure 4. OFDC Logo. Source: OFDC.....	5
Figure 5. Green Food label. Source: Green Food	6
Figure 6. COFCC logo. Source: COFCC.....	6
Figure 7. Organic food logo (left) and certification (right).....	7
Figure 8. Logos of ECOCERT, CERES and BCS	8
Figure 9. Share of organic certificates of Chinese products in 2019. Source: CNCA/CAU.....	9
Figure 10. Top ten processed organic products in the Chinese market. Source: CNCA/CAU.....	11
Figure 11. Chinese processed organic products with sales of more than 100 million RMB. Source: CNCA/CAU.....	11
Figure 12. Chinese exports of organic products in 2019. Source: CNCA/CAU.....	12
Figure 13. Share of total organic agri-food import volumes by export country in &. Source: European Union, 2020	12
Figure 14. Main product categories of organic agri-food imports to EU by exporting countries. Source: European Union, 2020.	13
Figure 15. 10 most important trade partners for organic products in 2019. Source: CNCA/CAU.....	14

List of Tables

Table 1. Development or Regulatory Framework for Organic Food Certification in China	7
Table 2. List of top 20 Chinese certifiers in 2019. Source: CNCA/CAU 2020	10

1. Introduction

In the past 20 years China's organic agriculture and food sector caught up with leading global producers and markets. While in 2000 only 4,000 ha of China's arable land had been certified as organic, in 2019 certified organic land accounted for 2.2 million ha (FIBL/IFOAM 2021, p.38). By this, China is now among the ten countries with the largest area of certified agricultural land and land under conversion.

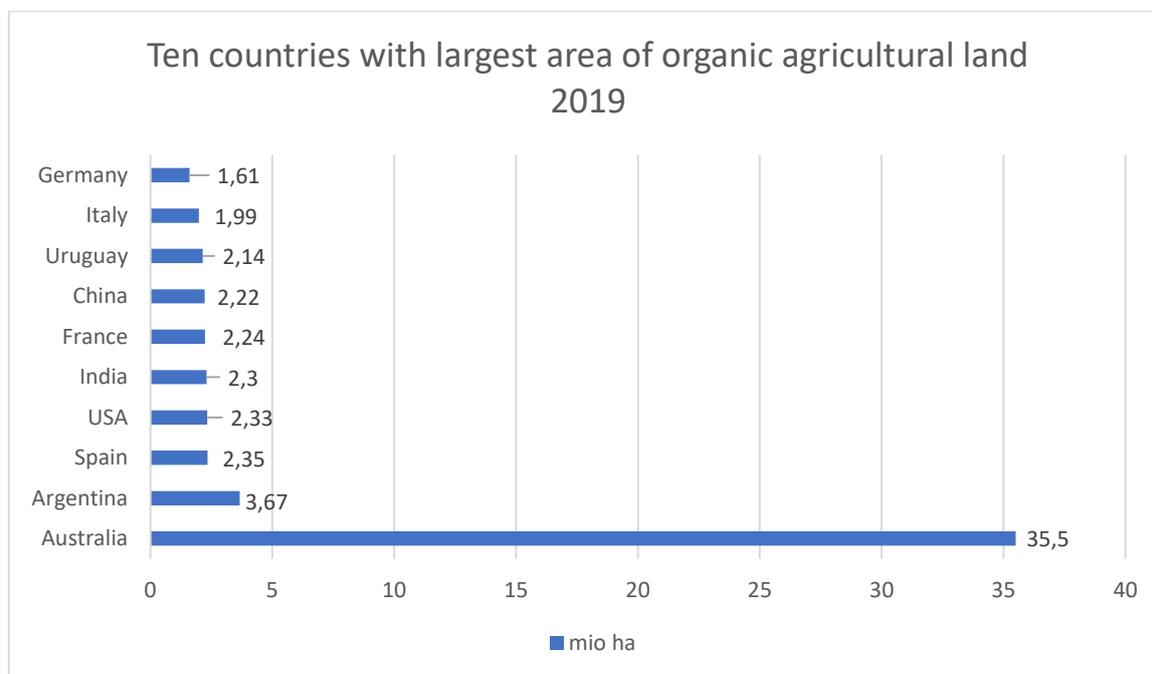


Figure 1. Ten countries with largest area of organic agricultural land 2019. Source: FIBL 2021

So far, certified organic land still only accounts for 0.4 % of China's total agricultural land (compared to a proportion of 9.7 % of agricultural land in Germany). This suggests that organic farming is still a niche sector with growth perspectives (FIBL 2020, 43).

However, with an annual turnover of 8.5 billion Euros, China is already the fourth largest market for organic food (next to France with 11.3 million Euros, Germany with 11.9 million Euros and the USA with 44.7 million Euros) and has an 8% share of the global organic food market (see Figures 2 and 3 and FIBL 2021, 65-66).

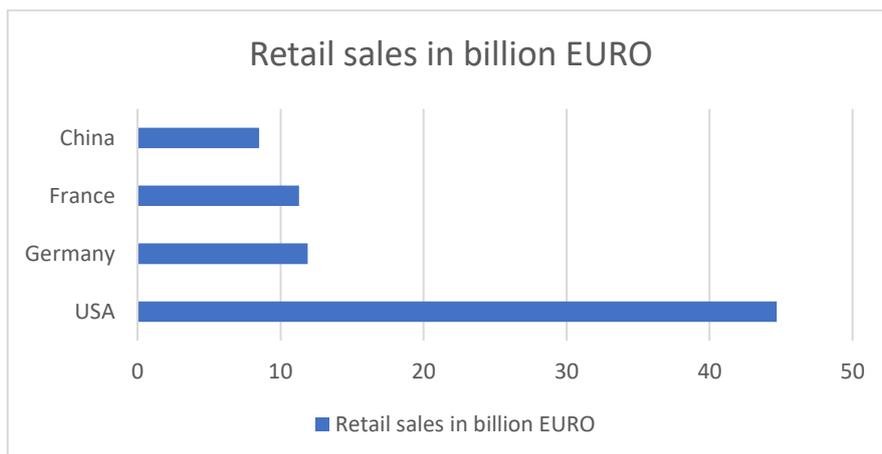


Figure 2. Retail sales in billion Euro. Source: FIBL 2021, 65

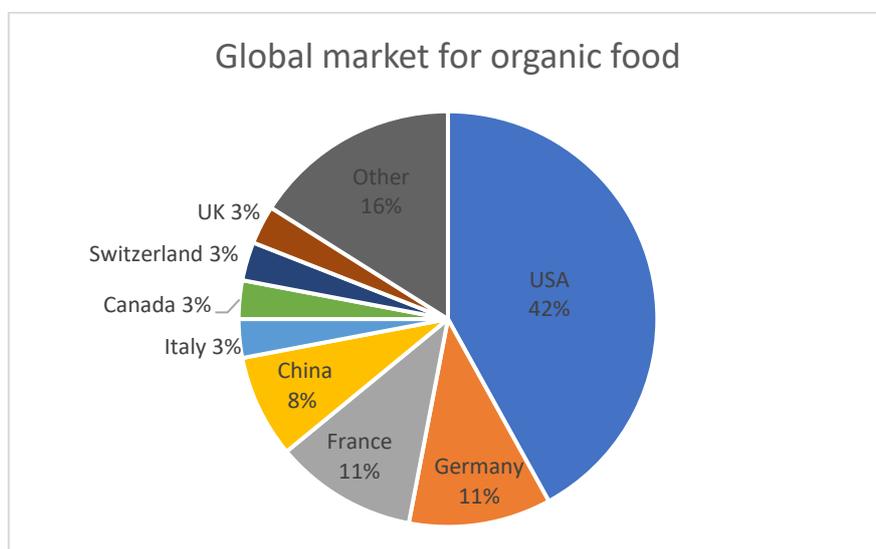


Figure 3. Global market for organic food. Source: FIBL 2021

Moreover, the country emerged to the biggest supplier of organic agri-food products for the EU, with 13.4 % of the total organic import volume in 2019 (European Union 2020).

This study takes a closer look into the development and prospects of the sector that is powered by an increasing demand for healthy and ecologically safe produced food by China's urban middle class as well as by an internationally growing market demand.

2. The early years

China has a long indigenous tradition of organic agriculture with a tremendous reservoir of knowledge and practices of organic fertilizer preparation, soil cultivation and biological pest control as they have been described for example by the American soil scientist F.H. King in “Farmers of forty centuries. Permanent agriculture in China, Korea and Japan”, published in 1911. Many of these skills had been given up or forgotten in the course of the so-called “Green Revolution” starting from 1970. With support of agrochemicals, mechanization and genetic improvements over the years, China not only managed to achieve an amazing increase in agricultural productivity, but also became to the world’s leading user of chemical fertilizers and pesticides.

Consequently, the predecessor of today’s Ministry for Environmental Protection and Ecology (MEE), the State Environmental Protection Administration (SEPA), became the main driver for promoting organic farming in China in the 1990s in order to reduce the massive environmental pollution, soil degradation and public health issues related to the overuse of agrochemicals. In contrast, in the light of the overall target of achieving food security, the Ministry of Agriculture (formerly MoA, today MARA) was reluctant in the initial phase to recommend farming techniques that could lead to a possible decline in yield. The ministry’s position changed over the years when market opportunities for organic food became more realistic and with a worsening ecological crisis the need to find strategies for reducing agrochemical input became more urgent.

Modern organic agriculture that follows internationally accepted rules and standards had first been introduced by Western companies in the 1990s and was mainly export-oriented in the early years. In 1990, the Dutch certifier SKAL certified green tea from Lin’an county in Zhejiang province as organic tea from China for the first time. In 1994, SEPA set up the Organic Food Development Centre (OFDC), attached to the Nanjing Institute of Environmental Science. Between 1997 and 2003 the German development agency GTZ (today’s GIZ) in cooperation with OFDC supported the project “Development of Organic Agriculture in Poverty Stricken



Areas in China”, which helped to set up an organic tea plantation in a remote county in Anhui province. With support of GTZ, OFDC qualified to become the first Chinese organic certifier accredited by the International Federation of Organic Agricultural Movements (IFOAM) and the International Organization for Standardization (ISO) in 2002. After accreditation OFDC proudly integrated the IFOAM logo into their logo. (<http://www.ofdc.org.cn/>)

Figure 4. OFDC Logo. Source: OFDC

In the following years more Chinese organic certifier companies, such as the Organic Tea Research and Development Center (OTRDC), which is affiliated to the Tea Research Institute of the China Academy of Agricultural Sciences (CAAS) in Hangzhou have been established.

In the early years these organic labels were rarely found in the Chinese market and Chinese consumers did not know about the concept of certified organic food. Moreover, organic labels had to compete with the better known “Green Food” (绿色食品) label which had been introduced in 1990 by MoA’s Green Food Development Center. The Green Food label was China’s first government supported certification program to ensure food safety. Although often mistaken for organic food, “Green Food” Grade A permits the use of agrochemicals to a certain degree.

In 1995, the Green Food Development Center developed a “Green Food AA Standard” for premium products mainly designated for export and rarely found in local markets. These products had to comply with stricter international standards for organic food. In 2002, the Green Food Development Center set up its own organic certification body, the China Organic Food Certification Center (COFCC) with a new organic food label which practically replaced the Green Food AA label.



Figure 5. Green Food label. Source: Green Food



Figure 6. COFCC logo. Source: COFCC

By using the extensive network of local Green Food Development Centers and their inspectors, COFCC quickly emerged as the country’s leading certifier. COFCC was the major partner in China from 2006 to 2019 for Nürnberg Global Fair’s BioFach, the world’s leading organic trade fair that organized the first BioFach in Shanghai in 2007.

3. Development of a regulatory framework

Since 2003, several important steps towards institutionalization and regulation of organic food in China have been taken. In 2003, the China National Certification Administration (CNCA), formally took over the administration of China’s organic products certification. CNCA is a government institution affiliated with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), that administers, supervises and coordinates certification and accreditation systems in China. In 2005, the “Regulations of the PR China on Certification and Accreditation” were released. The regulations stipulated that only those companies that are registered with CNCA and accredited by the China National Accreditation Service for Standardization (CNAS) can carry out certification. In the same year, the “National Standard for Organic Products” (GB/T 19630) and “Implementation Rules for Organic Product Certification” were released. In 2012 and again in 2019 the standard and the implementation rules have been revised and streamlined for the requirements of a fast-developing sector.

1990	Dutch SKAL certification body issued the first organic certification in cooperation with the Nanjing Institute for Environmental Sciences (NIES)
1992	Ministry of Agriculture (MoA) established Green Food Development Center. Green Food AA standard becomes equivalent to organic
1994	State Environmental Protection Administration (SEPA) establishes Organic Food Development Center (OFDC) affiliated with NIES
1995	“Approach to Management of Organic Certification” and Technical Norms for organic food promulgated by SEPA
2001	Revised standards (with reference to IFOAM standards) published by OFDC
2002	MoA established the China Organic Food Certification Center (COFCC) under the Green Food Development Center. COFCC is the first certification body registered at China National Certification Administration (CNCA)
2003	CNCA takes over the administration of organic product certification
2005	“Regulatory Measures on Organic Product Certification Management” (by AQSIQ), “National Standard for Organic Products Certification” (GB/T 19630); National Logo for Organic Products introduced “Implementation Rules for Organic Product Certification” (by CNCA)
2011	“National Standard for Organic Products” and “Implementation Rules for Organic Product Certification” revised
2014	“Administrative Measures on Organic Product Certification” revised
2015	Plan for Sustainable Agriculture 2015-2030, Fertilizer and Pesticide Act
2019	“National Standard for Organic Products” (GB/T 19630-2019) and “Implementation Rules for Organic Product Certification” revised

Table 1. Development or Regulatory Framework for Organic Food Certification in China

The standard stipulates that uniform logos for labelling Chinese Organic Food Products should be printed on the package as addition to the label of the certification company.



Figure 7. Organic food logo (left) and certification (right)

In addition, there is also a brown logo labeling organic food that was produced on agricultural land under conversion. The logo was only used in the conversion phase before the final certificates were developed.

The standard stipulates that only products with more than 95% organic ingredients can be labeled organic. Processed food with more than 70% but less than 95 % organic can be labeled as “manufactured with organic ingredients”. Products containing less than 70% can only be labeled as containing specific organic ingredients. In recent years, certification companies such as OFDC have introduced QR codes, which allow tracing back the date and location of production and shall avoid an unauthorized use or use of fake labels.

The revised standards from 2019 included changes in production and processing, such as adding microbial preparation for control and prevention of animal diseases and in plant production, they also added requirements for packaging and food additives eligible for organic production. According to the revised standard, if the organic production organization consist of several farmers, inspections can be limited to some farms instead of inspecting each farm.

In many aspects the standard follows IFOAM criteria, but also included requirements of the Japanese JAS standard and the American NOP standard. The standard has thus clearly been designed in view of the export market. However, until today many countries have not recognized the Chinese standard. For example, for many years China has been trying to be included in the EU “Organic Food Supplier List of Third Countries” – without success. Without being included to this list, organic products from China produced for export to the EU are required to obtain a certification by an international control body like for example the French company ECOCERT or German CERES and KIWA BCS “Ökogarantie”, which are accredited with CNCA.



Figure 8. Logos of ECOCERT, CERES and BCS

In addition to this requirement, in the past years China was added to a list of those countries with mandatory tests of organic products for pesticide residues. Most recently the “EU guidelines on additional controls on products originating from China” (effective from 01/01/21 to 31/12/21) were issued (European Union 2021).

In response to these strict regulations, China has set similar strict rules, which stipulate that imported organic food or food certified by international certifiers in addition needs to be certified by a domestic certifier to get placed on the shelves of Chinese supermarkets. The requirement of double certification is costly and therefore a barrier for China's emerging organic food sector.

4. Present status of certified organic agriculture in China

According to the statistics of CNCA by the end of 2019, 13,813 farms and businesses were certified organic and 21,746 organic certificates were issued. About 70% of organic certificates were issued for products of plant production (16,665) while 5361 were issued for processing, only 953 were issued for livestock and poultry, 527 for aquatic products and 381 for wild collection (CNCA/CAU 2020).

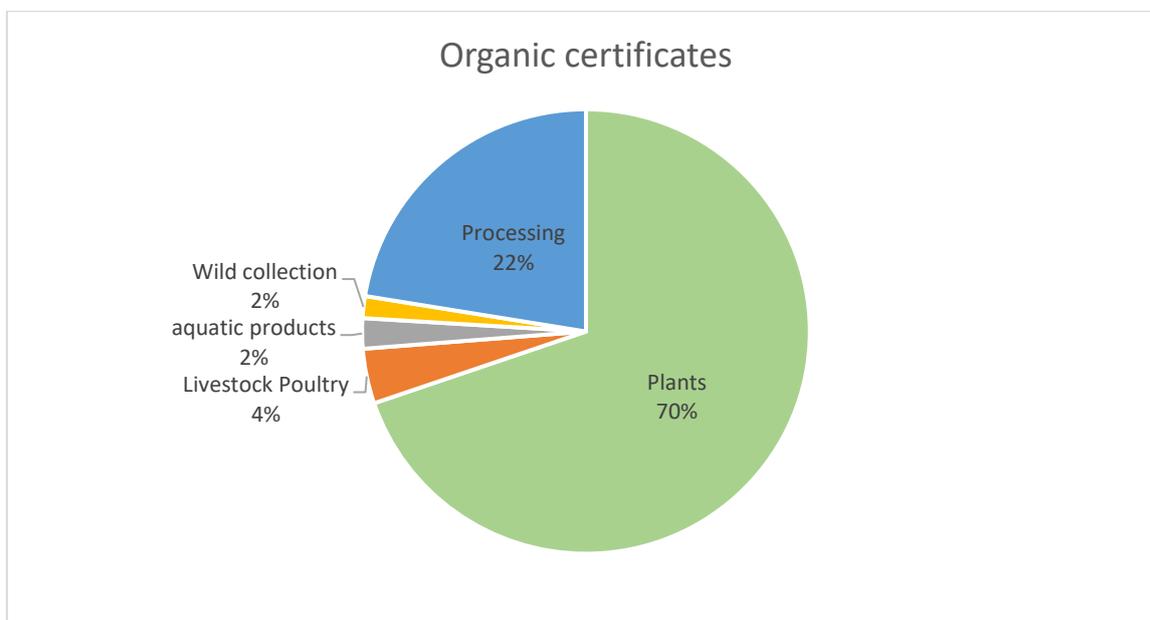


Figure 9. Share of organic certificates of Chinese products in 2019. Source: CNCA/CAU 2020

Of the 68 certifiers registered with CNCA and accredited by CNAS for organic certification, 20 companies provided 85% of the certifications in 2019. According to recent statistics, China's leading certifier is Beijing Wuzhou Hengtong Certification Co (CHTC), a company that offers also certifications corresponding to the EU standard and Japanese JAS standard and has certified 2,595 companies.

Certifiers	Numbers of certificates	Number of certified companies
Beijing Wuzhou Hengtong Certification Co	3752	2595
Organic Food Development and Certification Center of China (OFDC)	2542	1127
Beijing Zhonglv Huaxia Organic Food Certification Center (OFCC)	1771	1033
Hangzhou Wantai Certification Co	1500	975
Beijing Zhongjinniu Certification Center Co. Ltd	985	709
China Green Certificate (Beijing) Certification Center	816	582
Ohti Certification Co	748	516
Beijing Zhongan Quality and Environmental Certification center	673	463
OTRDC	664	383
GRIT	643	493
CQM	569	323

China Europe Joint inspection and certification	543	423
Beijing Wuyue Huaxia management and Technology	502	322
China Quality Certification Center	472	333
Guangdong Zhongjian Certification Co	421	284
Beijing Zhongnong Lvan Organic Agricultural Technology	407	276
ECOCERT	407	297
Liaoning Fangyuan Organic Food Certification Co	405	214
Heilongjiang Guoan Product Quality and Safety Certification Center	365	172
Liaoning Liaohuan Certification Center	299	221

Table 2. List of top 20 Chinese certifiers in 2019. Source: CNCA/CAU 2020

Despite the impressive increase of certified farmland and farmland under conversion, the total number of certified producers with 6,308 and processing companies with 3,865 remains comparatively small (in comparison, Germany accounts for 31,713 producers and 15,441 processing companies). Only a few companies (66) import organic products, whereas 1,198 are involved in the export of products (FIBL 2020, 61). The comparatively small number of certified companies implies that these companies regularly work with sub-contracted smallholders. This also may result in problems such as monitoring every single sub-contracted farmer, who are not necessarily well-trained – let alone convinced – organic farmers.

Almost half of the 2.2 million ha of certified organic agricultural land in China is located in North-East China, with Heilongjiang (517,100 ha), followed by Inner Mongolia (296,600 ha) and Liaoning (226,300 ha). Southwest Guizhou (147,000 ha) and Yunnan (89,600 ha) are important provinces for organic agriculture as well (CNCA/CAU 2020). In the more densely populated areas of Eastern China it seems to be difficult to reach organic standards. Even well-meaning organic producers struggle in the vicinity of conventional farms to recover soil to a quality acceptable for organic farming standards and not to get “infected by pesticide spraying” of neighboring farms. Moreover, methods of biological pest control might not work when pesticides from surrounding farms have killed beneficial insects and birds.

5. China's domestic organic market

In recent years, China has advanced to the fourth largest market for organic products worldwide. Organic dairy products (sterilized milk, pasteurized milk, milk powder and fermented milk) are dominating the Chinese market. Certified organic milk powder and sterilized milk were also the major imported items. This preference is possibly the lasting impact of the 2008 tainted milk scandal, when reportedly 300,000 children fell ill after consumption of milk powder contaminated with melamine. Until today many Chinese consumers distrust domestic conventional dairy products.

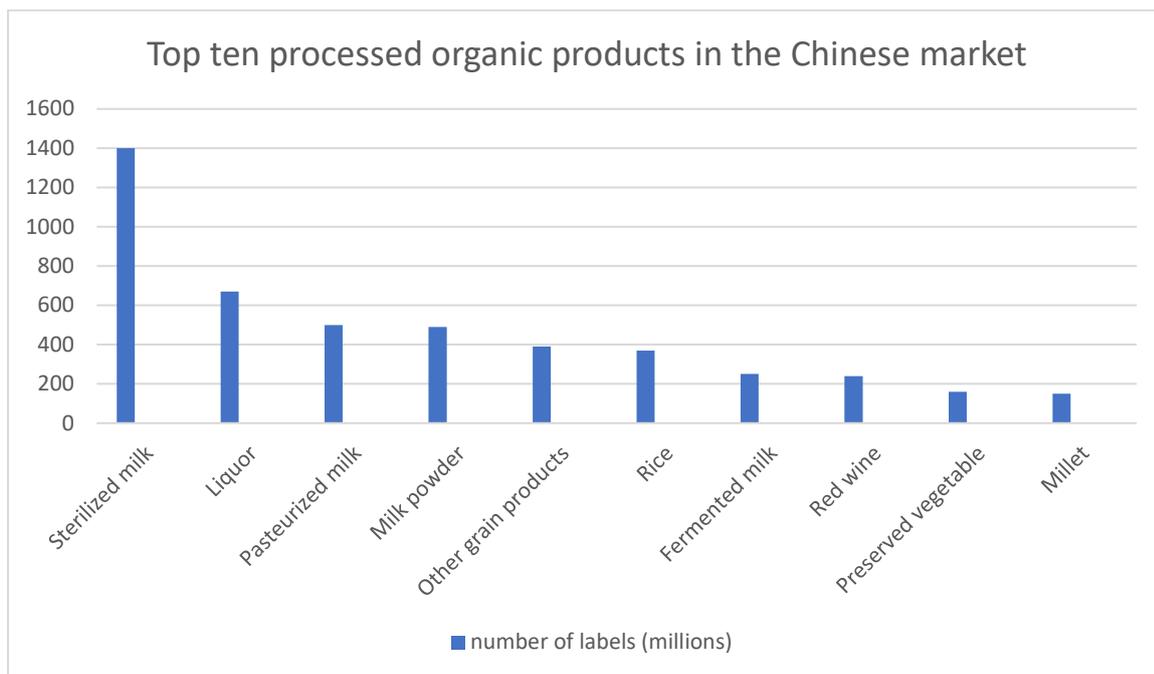


Figure 10. Top ten processed organic products in the Chinese market. Source: CNCA/CAU 2020

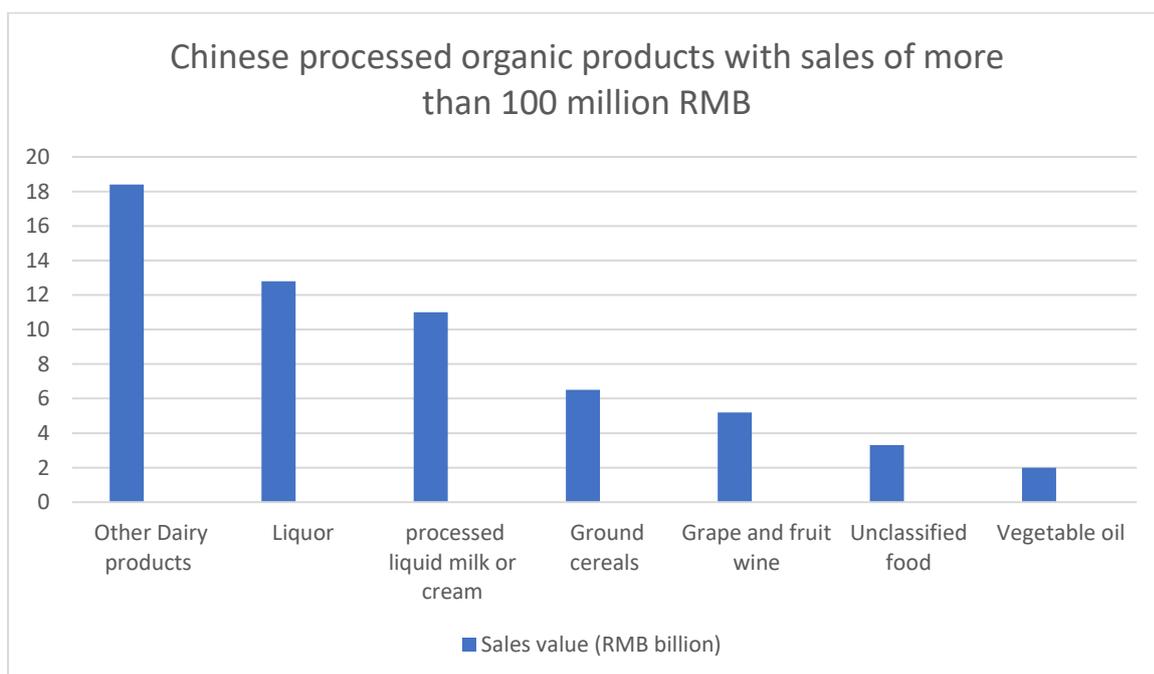


Figure 11. Chinese processed organic products with sales of more than 100 million RMB. Source: CNCA/CAU 2020

6. Export of organic products

The EU remains the main destination for export of Chinese organic products, despite the mentioned strict EU regulations and the lacking admission to the “Organic Food Supplier List of Third Countries”.

In 2019, half of China’s exported organic products (727 million US\$ in terms of value of goods) had been exported to the EU (360 million US \$ or 299 million Euros) with the Netherlands as the main destination for Chinese organic products (118 million US\$ or 98 million Euros) followed by Germany (78 million US\$).

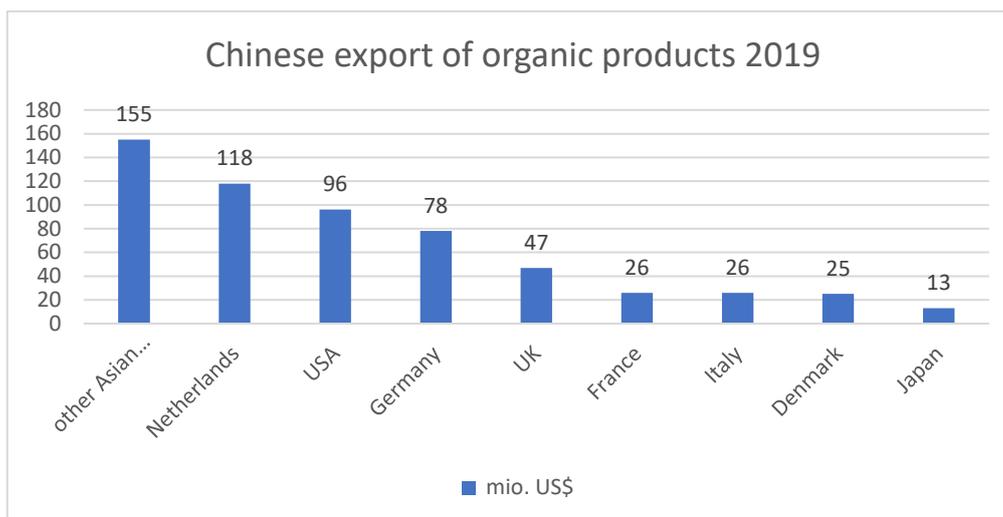


Figure 12. Chinese exports of organic products in 2019. Source: CNCA/CAU 2020

In 2019, China was the leading trade partner for organic agricultural products to the EU with a share of 13%.

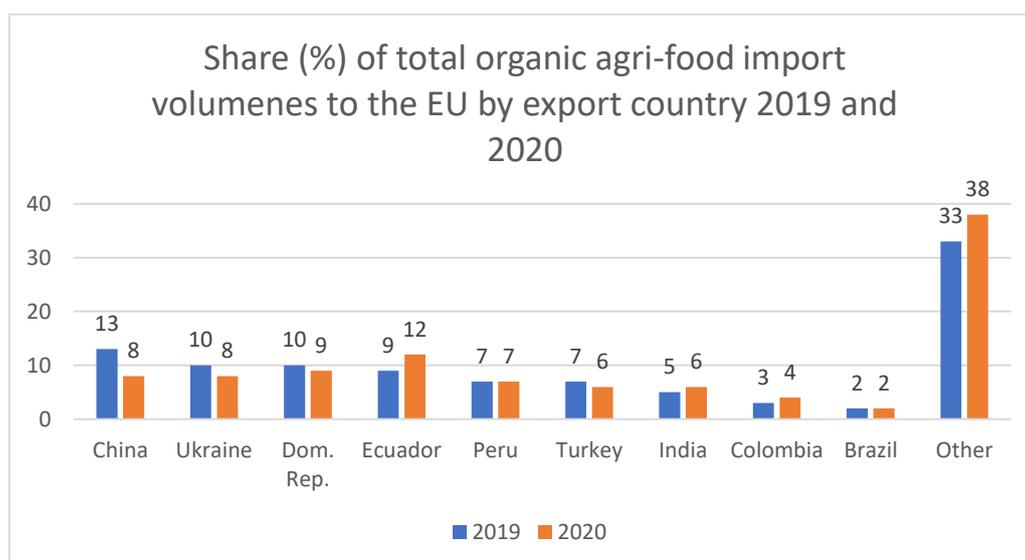


Figure 13. Share of total organic agri-food import volumes by export country in 2019 and 2020. Source: European Union, 2020 and EU Agricultural Market Briefs, 2021

In 2020, there was a sharp decrease of -36% in the trade volume between China and EU. In 2020, China accounted for only 8% of the total trade volume and was the third largest export country after Ecuador and Dominican Republic (EU Agricultural Market Briefs 2021). While imports from the Ecuador and Dominican Republic mainly include fruit, nuts and spices, China mainly exports oilcakes used as feed component for livestock production. In 2020, a sharp decline in EU imports of oilcakes from China (-47%) has been recorded. However, China remains the major supplier of organic oilcakes to the EU.

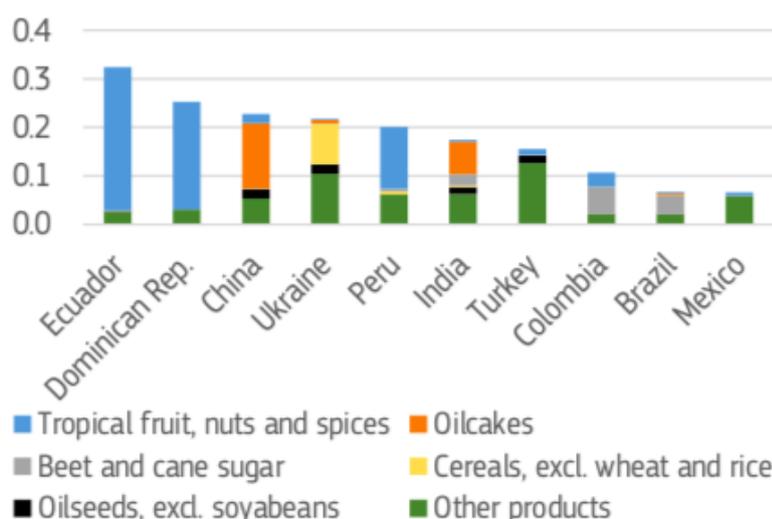


Figure 14. Main product categories of organic agri-food imports to EU by exporting countries 2020 in million tons. Source: EU Agricultural Markets Brief, 2021

7. Import of organic products

In 2019, China imported organic food with a value of more than 12.5 billion RMB (about 1.6 billion Euros). Again, the Netherlands are the leading trade partner with almost 40% of the total trade volume (4.8 billion RMB or 620 million Euros,) followed by Ireland (3.27 billion RMB or 420 million euros) and the US (1.39 billion RMB). Organic food imports from Germany play only an insignificant role in terms of trade value. From Europe China mainly imported organic milk powder, sterilized milk, butter, flour, infant food, pasta products, oil and red wine. All imported products are required to be manufactured according to the Chinese organic standard and need to be certified by a Chinese certifier accredited with CNCA.



Figure 15. 10 most important trade partners for organic products in 2019. Source: CNCA/CAU

8. Challenges and chances

In the past two decades China emerged as a considerably important producer and large market for organic food. Although the sector receives support from highest political levels by now as it is promoted for improving the environment and providing income opportunities in the countryside, the sector still faces severe challenges. In a rural economy with the world's highest input of chemical fertilizer and pesticides, organic producers struggle immensely. High production costs and a therefore limited domestic market make it difficult to survive. In addition, as long as China is not included in the EU "Organic Food Supplier List of Third Countries", producers aiming at the international market complain about the costly need of multiple certifications. Moreover, the sector suffers from China's general poor image for food safety and still needs to gain consumer trust.

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