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China's organic agriculture and food sector

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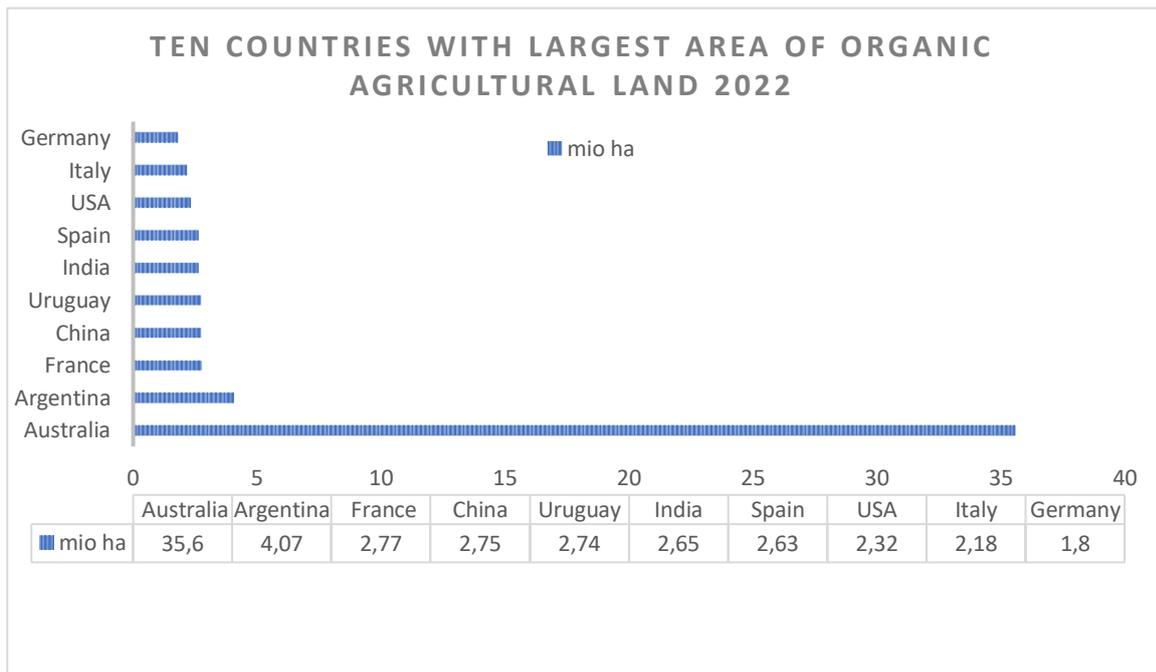
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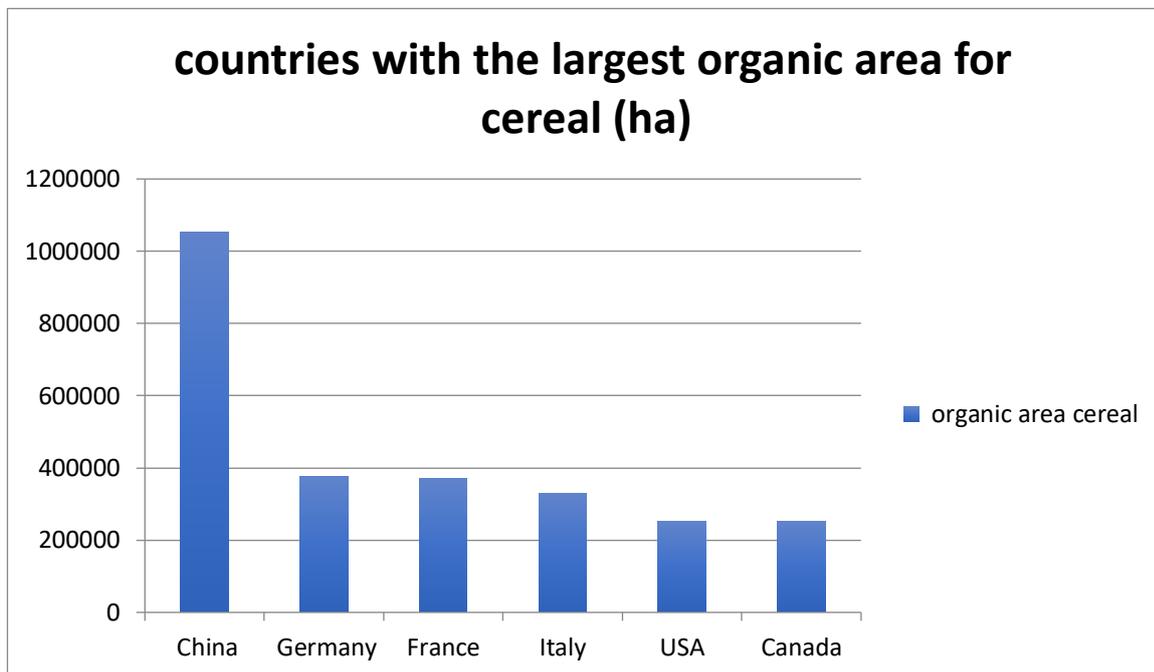
Introduction

In the past 20 years China's organic agriculture and food sector caught up with leading global producers and markets. While in the year 2000 only 4000 ha of China's arable land had been certified as organic, in 2022 certified organic land accounted for 2.75 million ha (FiBL 2023,36). By this, China is now the country with the fourth largest area of certified organic agricultural land or agricultural land under conversion behind Australia, Argentina and France.



Source: FiBL 2023, p. 36

With about 1 million ha China is the leading country for organic cereal production. (FIBL 2023, 90)

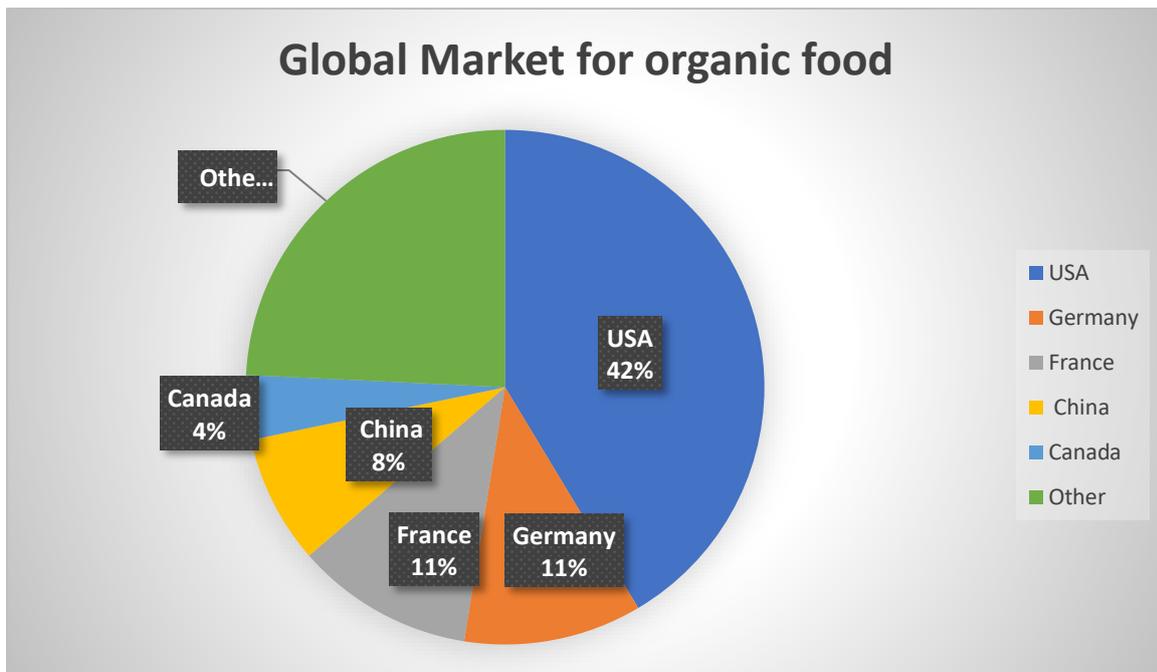
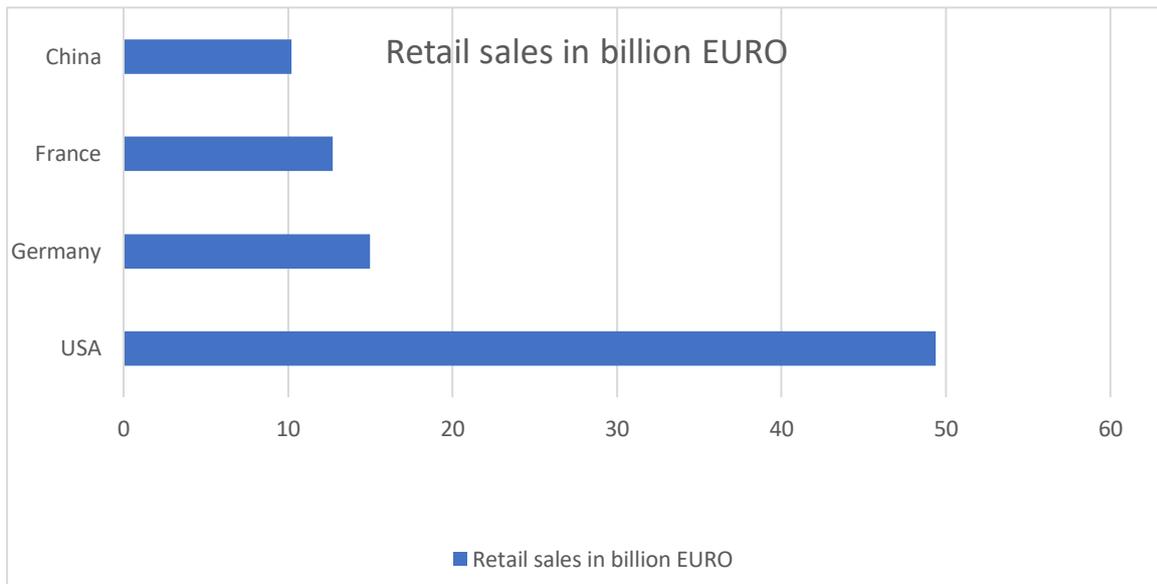


Source: (FIBL 2023, 90)

1.7 million ha China is also among the ten countries in the world with largest organic wild collection and beekeeping areas in 2020 (FIBL 2023, 80)

So far, certified organic land is still only accounting for 0.5 % of China's total arable land (compared to a proportion of 10.8 % of arable land in Germany). This suggests that organic farming is still a niche sector with growth perspectives (FIBL 2023, 39-40).

However, with the annual turnover of 10.1 million EURO China is already the fourth largest market for organic food (next to Germany 15 million EURO, France 12.7 million € and leading USA with 49.4 million EURO) and a share 8 % of the global organic food market. (FIBL 2023, 66-67). In China the share of organic food accounted for 7 % of all retail sales in the food sector. (FIBL 2023, 67).



Source: FIBL 2023, 65

In 2020 China's organic exports reached a trade volume of 805 million EURO (FIBL 2023, 67). Since a few years China has emerged to the biggest supplier of organic agri-food products to the EU, with 13.4 % of the total organic import volume in 2019. (European Union (2020), 3)

This article 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.

Development of organic farming in China

China has a very 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 advanced to the world leading user of chemicals fertilizers and pesticides.

Consequently, it was in the 1990s the predecessor of today's Ministry for Environmental Protection and Ecology (MEE), the State Environmental Protection Administration (SEPA), who became the main driver for promoting organic farming in China in order to reduce the massive environmental pollution, soil degradation and public health issues related to the overuse of agrochemicals. In contrast, the Ministry of Agriculture (MoA, today's MARA) in the light of the overall target of achieving food security was in the early phase reluctant to recommend farming techniques that might result in a potential yield decrease. 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 been first introduced in the 1990s by Western companies and was in the early years mainly export-oriented. In 1990, the Dutch certifier SKAL certified for the first time green tea from Lin'an county in Zhejiang province as organic tea from China. 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 in 2002 to become the first Chinese organic certifier accredited by the International Federation of Organic Agricultural Movements (IFOAM) and the International Organization for Standardization (ISO). After accreditation OFDC proudly integrated the IFOAM logo into their logo. (<http://www.ofdc.org.cn/>)



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 had no idea of 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.



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

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), a government institution affiliated with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) formally took over the administration of China's organic products certification. 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" have been 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.

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

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

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



In addition, there is also a brown logo labeling organic food that was produced on agricultural land under conversion. 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 to trace 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 is 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.



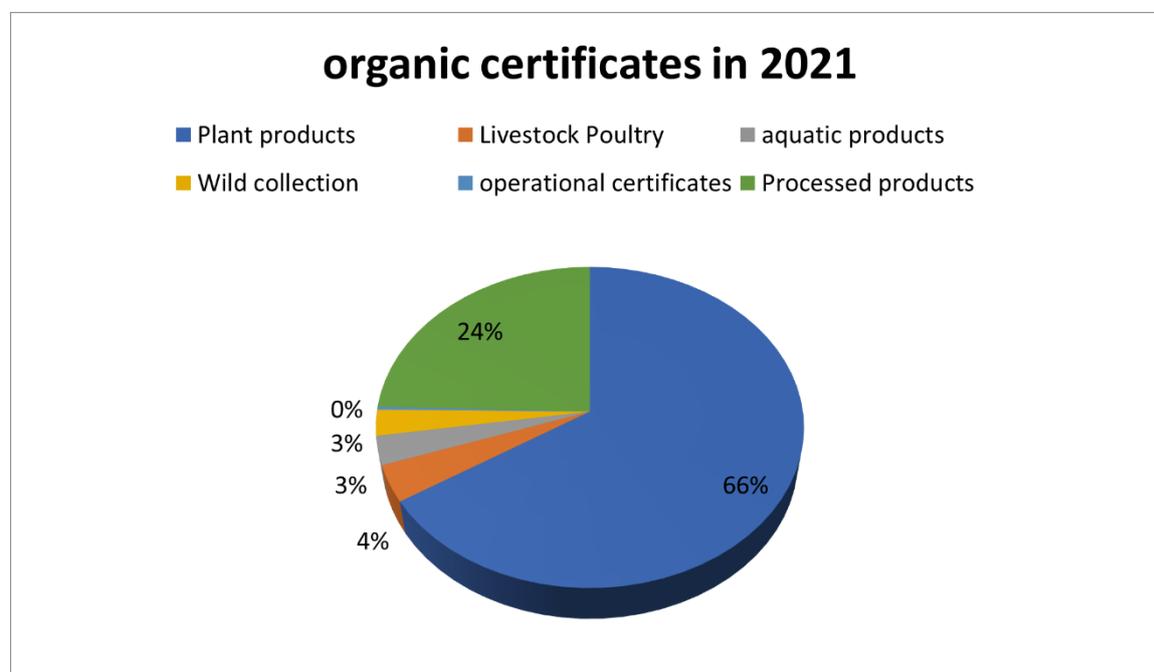
In addition to this requirement, in the past years China has been added to the list of those countries with mandatory tests of organic products for pesticide residues. Most recently the “EU guidelines on additional controls on products originating from China” (effective from 01/01/21

to 31/12/21) have been issued. (see also Sino-German Agricultural and Food Update 13/2021, p.10)

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.

Present status of certified organic agriculture in China

According to the statistics of CNCA by end of 2021, 14,847 farms and businesses were certified organic and 23,617 organic certificates had been issued. About 66% of organic certificates had been issued for products of plant production (16,665) while 24.5% were issued for processing, only 3.7% were issued for livestock and poultry, 2.9% for aquatic products and 2.6% for wild collection.



Source: CNCA/CAU 2022 b, 4

Of the 68 certifiers accredited by CNCA for organic certification, 20 companies provided 85% of the certifications in 2019. In 2021, 15 certification bodies in China carried out certifications in accordance with international standards. These companies included OFDC (China), CHTC (China), Ecocert (France), Kiwa BCS (Germany), CERES (Germany), SRS (Germany), BAC (Italy), ACERT (Greece), NASA (Australia), JONA (Japan), IBD (Brazil) and Doalnara (South Korea). China's leading certifier is the Beijing Wuzhou Hengtong Certification Co (CHTC), a company that offers also certifications abroad. Some of the Chinese certification bodies also offer services abroad: In 2021 16 Chinese certification bodies issued 561 organic certificates according to China's organic standards in 53 countries and regions. (CNCA/China Agriculture University 2022 a)

Tab.: 2 List of top 20 Chinese certifiers in 2019

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

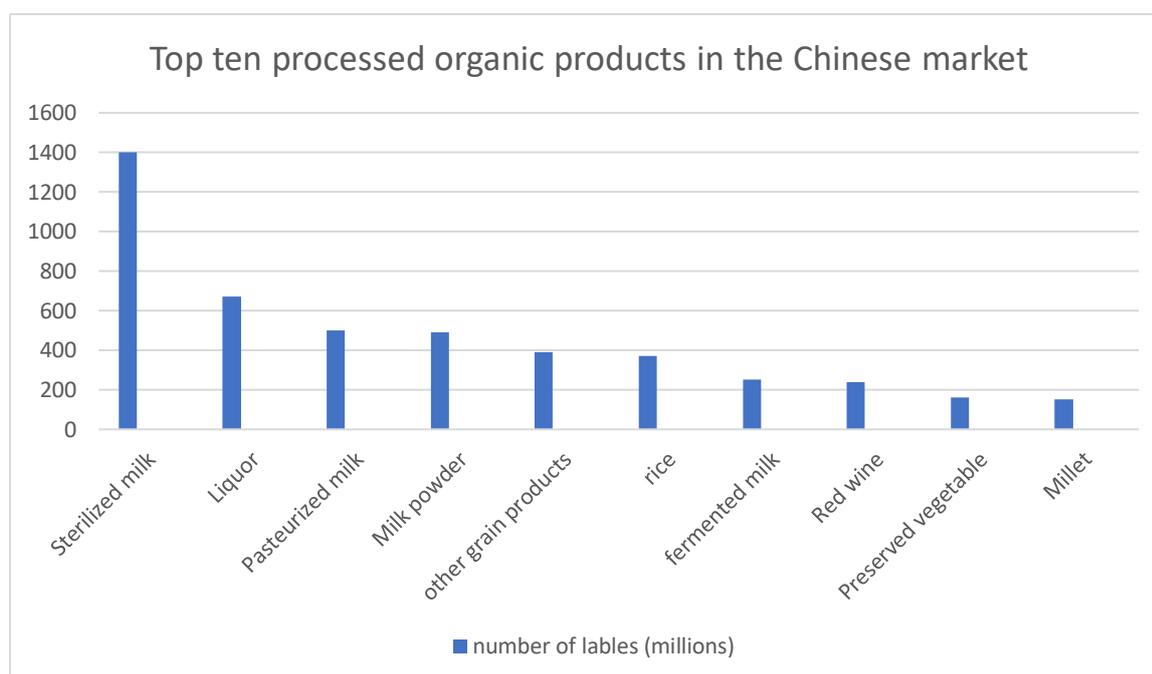
Compared to 2019 latest statistics indicate that numbers of certified producers and processing companies more than doubled, indicating a rapid development of the sector in the recent years. In 2021, the total number of certified producers in China accounted for 14,161 and the number of processing companies for 7,619. However, in view of the large area under organic cultivation their number still remains comparatively small (in comparison, Germany accounts for 36,307 producers and 19,572 processing companies). Only a few companies import organic products, whereas 233 are involved in the export of products (FIBL 2023, 56). 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 China's certified 2.7 million ha agricultural land is located in North-East China, with Heilongjiang (581,100 ha), followed by Liaoning (404,500 ha) and Inner Mongolia (359,900 ha) having the largest certified area. Also South-West Guizhou (235,700 ha) and Yunnan (185,400 ha) are important provinces for organic agriculture (CNCA/China Agriculture University 2022a). 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

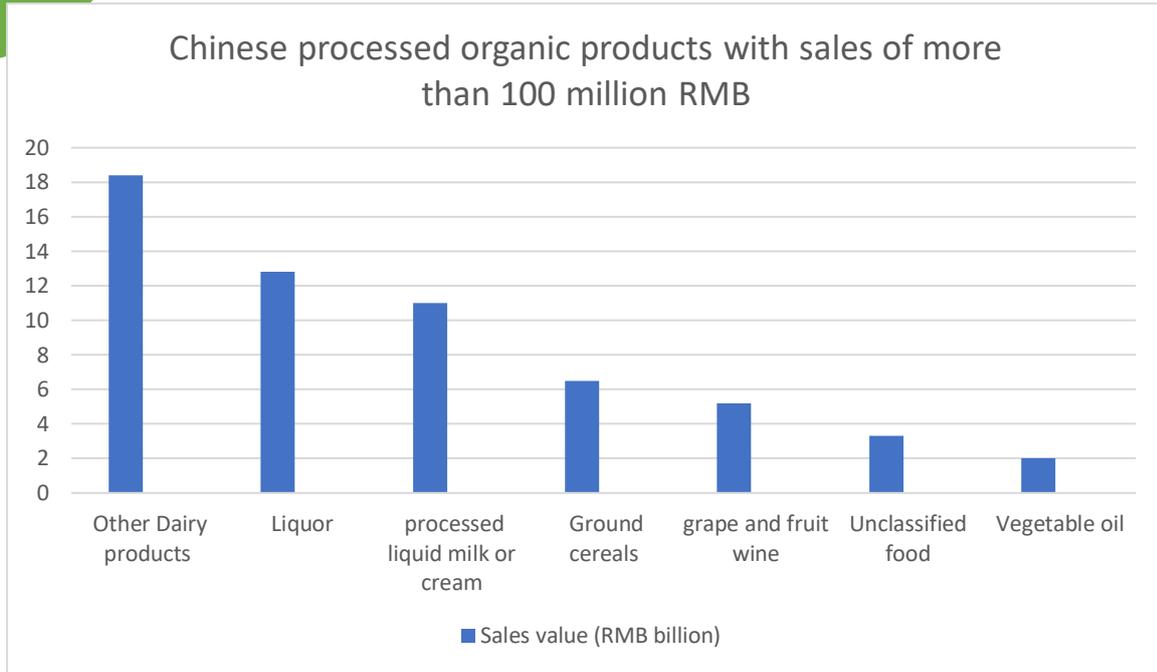
spraying” of neighboring farms. Moreover, methods of biological pest control might not work when pesticides from surrounding farms have killed beneficial insects and birds.

China's domestic organic market

In recent years, China advanced to the fourth largest market for organic products worldwide. In terms of products 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.



Source: CNCA/China Agriculture University 2020, p. 17

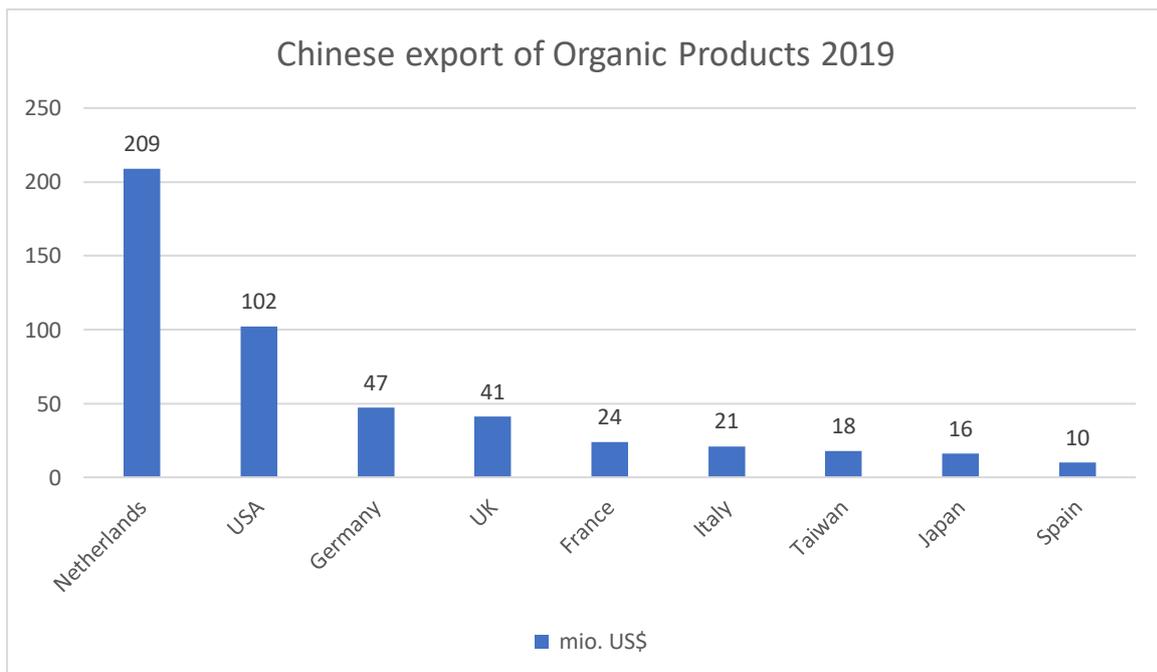


Source: CNCA/China Agriculture University 2020, p.20

Export of organic products

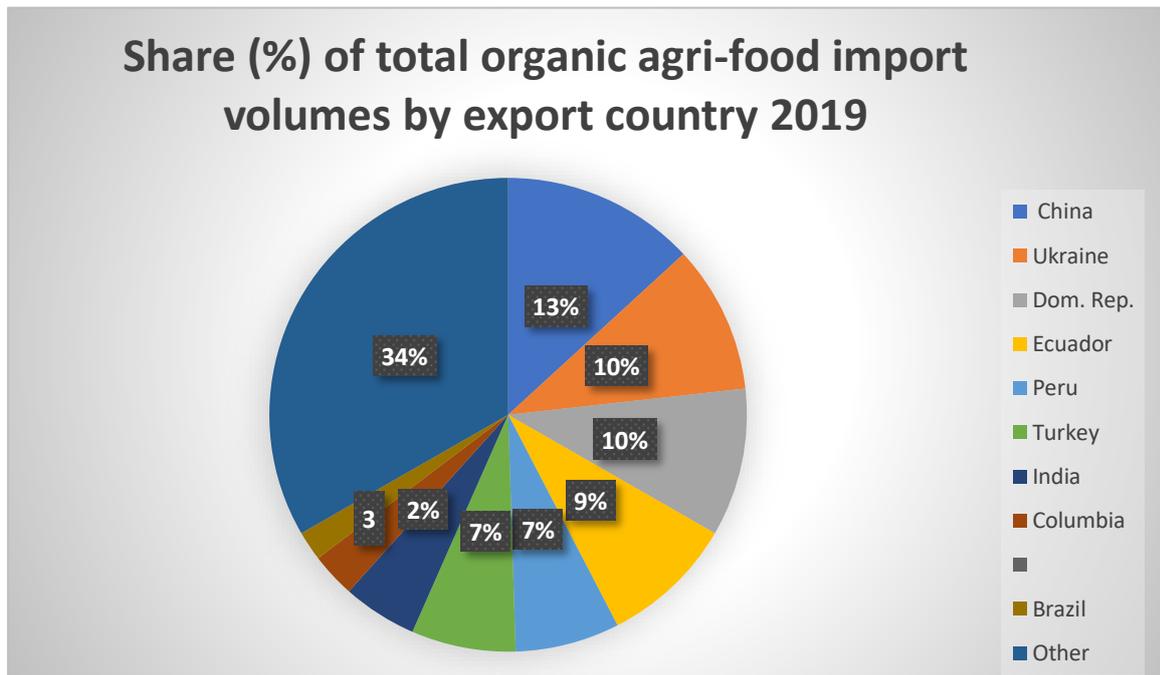
The EU remains the main destination for export of Chinese organic products, despite the mentioned strict EU regulations and the lacking admission to the “Organic Food Supplier List of Third Countries”.

In 2020, 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 (64 million US \$).



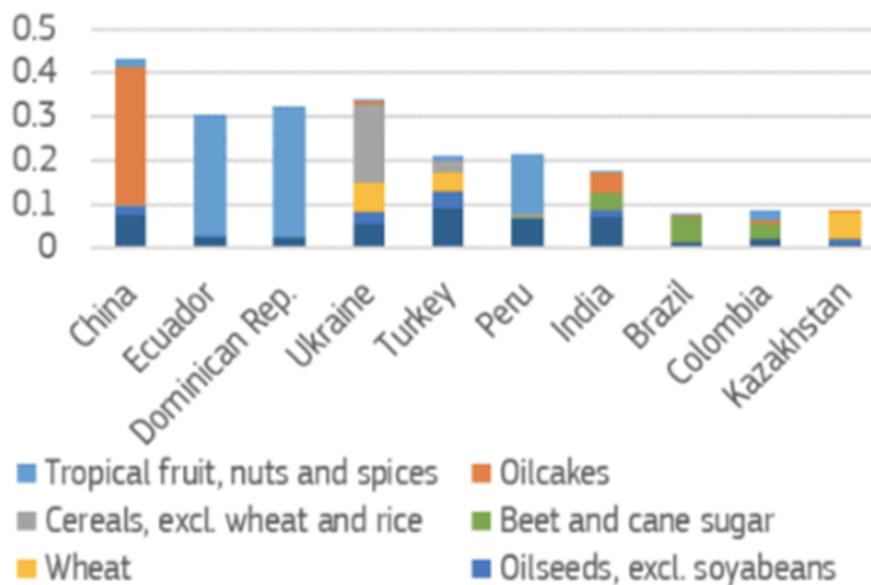
Source: CNCA/China Agriculture University 2022b, p.71

China with a share of 13 percent is the leading trade partner for organic agricultural products to the EU. For China Europe is the leading export market for organic products. In 2021 Europe accounted for 64.3% of the trade volume (CNCA 2023b, 70)



Source: European Union (2020), p. 3

75% of the organic products imported by EU from China are oilcakes used as animal feed.

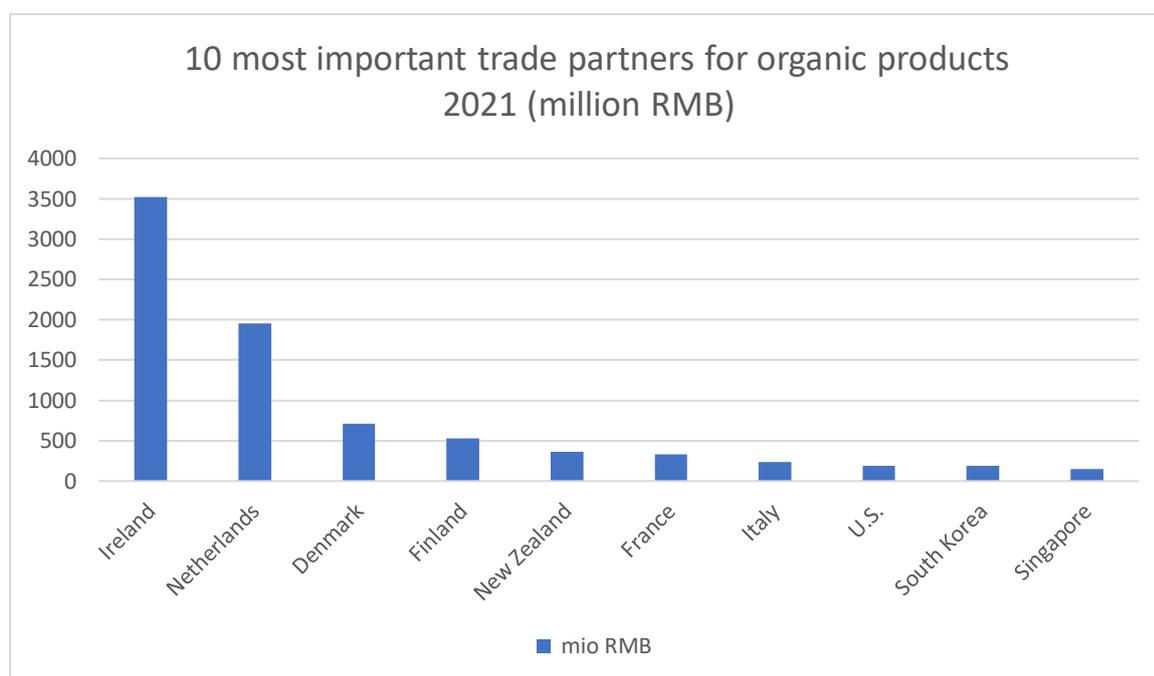


Main product categories of organic agri-food imports to EU by exporting countries

Source: Source: European Union (2020), p. 3

Import of organic products

Due to the impacts of the COVID pandemic import of organic products decreased compared to previous years. In 2021 China imported organic food worth of 8,86 billion RMB (about 1.19 billion euros) compared to 12.5 billion RMB in 2019. Ireland advanced to the leading trade partner with almost 40% of the total trade volume (3.5 billion RMB or 471 million euros,) followed by Netherlands (1.95 billion RMB or 262 million euros) and Denmark (710 million RMB). Organic food imports from Germany play only an insignificant role in terms of trade value. From Europe China mainly imported organic dairy products, baby food, crude rapeseed oil, cattle milk, single feed, wine, processed cereal products, cooking vegetable oil, wheat, maize, sunflower seed oil, jam, vegetable crisps, dried fruits, grapes, glucose syrup, sunflower seeds, flaxseeds, starch, wheat flour, frozen fruit and vegetable products. (CNCA/China Agriculture University 2022b, p.57). 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.



Source: CNCA/China Agriculture University 2022b, p.55

Challenges and chances

In the past two decades China emerged as a considerably important producer and large market for organic food. Although the sector by now receives support from highest political levels 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 world's highest input of chemical fertilizer and pesticides, organic producers struggle hard. High production cost and a therefore limited domestic market makes it difficult to survive. In addition, as long as China is not included into 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's trust.

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