

Competitiveness and Complementarity of Agricultural Trade between China and Belarus

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China and Belarus have frequent agricultural trade exchanges. In recent years, high-level leaders of the two governments have exchanged visits, which has further promoted the rapid growth of the scale and total volume of agricultural trade between the two countries. Based on the United Nations International Trade Standard Classification (HS) and the use of the United Nations Commodity Trade Statistics Database (UN Comtrade) 2009-2019 world agricultural products and China and Belarus agricultural products trade data, analyze the changes in agricultural products trade and commodity structure of the two countries, and use explicit comparison The dominant index RCA and the explicit complementary index TCI analyze the competitiveness and complementarity of agricultural products between China and Belarus. The results show that: (1) The scale and total volume of agricultural products trade between the two countries are increasing, but the growth of China's imports from Belarus is greater than that of exports, and China is in a trade deficit position. (2) The exports of agricultural products of the two countries are competitive, but the competitiveness is not strong. Among them, Chinese exports are generally not highly competitive, and Belarus is highly competitive in terms of individual agricultural products. (3) The agricultural products trade between the two countries has strong complementarity, but the complementarity of Chinese exports of Belarusian agricultural products has always been less than the complementarity of Chinese imports of Belarusian agricultural products. Recommendation: China and Belarus should make use of the implementation of the “Belt and Road” initiative to formulate relevant policies and strengthen trade cooperation. Improve infrastructure construction, expand the space for trade exchanges of agricultural products with comparative advantages, and promote the implementation of trade facilitation.

Key words: *China, Belarus, agricultural products trade, competitiveness, complementarity.*

Introduction

China is a large agricultural country and a country with a large population. In recent years, with the rapid development of China's economy, people's demands for quality of life have been continuously improved. The domestic demand for bulk agricultural products such as corn, soybeans, meat products and dairy products has grown strongly. The terrain in Belarus is mostly plains and basins, which are very suitable for agricultural production and the agricultural industry is very developed. Therefore, the research on the agricultural trade between China and Belarus Competitiveness and complementarity, it is of great practical significance to explore the potential of agricultural trade cooperation between China and Belarus. Belarus has a temperate continental climate. It is warm in summer, rainy in autumn, and humid in winter. The terrain is mostly flat. The soil is mainly meadow gray soil, which is very suitable for the growth of crops. In 2019, Belarus has 6.23 million hectares of cultivated land, accounting for about 43% of the country's land area. On January 1, 2019, the total population of Belarus was 9.4752 million, belonging to a country with a large amount of cultivated land per capita. China has a vast territory, and most areas are subtropical and temperate.

The area of cultivated land in 2019 is about 130 million hectares, but China has a population of 1.4 billion, which is a typical country with less cultivated land per capita. There are differences between China and Belarus in terms of natural conditions and agricultural production conditions, and the rapid development of the Chinese economy. The demand for agricultural products and organic agricultural products has increased rapidly, giving agricultural products trade between the two countries a good development opportunity in the future. At present, the deepening of friendly relations between the two countries and the increase in political mutual trust have become a strong driving force for economic and trade development. In July 2013, China and Belarus established a comprehensive strategic partnership, marking a new era in the development of bilateral relations. On May 10, 2015, Chinese President Xi Jinping visited Belarus and the two countries signed the Treaty of Friendship and Cooperation between the People's Republic of China and the Republic of Belarus, which laid a solid legal foundation for the further development of bilateral relations. From September 28 to 30, 2016, Belarusian President Alexander Lukashenko paid a state visit to China, and exchanged visits between the leaders of the two countries. The two sides also actively promoted the construction of the "Belt and Road" and strengthened the "Belt and Road" The "One Road" initiative has reached an important consensus on achieving overall economic and social development layout and strategic docking. Although the governments of China and Belarus have a strong willingness to expand the agricultural trade

between the two sides, can this political will between the governments be transformed into a market-based mutually beneficial agricultural trade cooperation based on marketization? The competitiveness, complementarity and development potential of trade have become key factors.

Based on the United Nations International Trade Standard Classification (HS) and the use of the United Nations Commodity Trade Statistics Database (UN Comtrade) 2009-2018 world trade data and China and Belarus agricultural products trade data, the analysis of China and Belarus agricultural trade volume and structure changes, using explicit The Comparative Advantage Index (RCA) and the Explicit Complementary Index (TCI) analyze the competitiveness and complementarity of agricultural trade between the two countries, illustrate the potential of agricultural trade between the two countries, and make recommendations for further expanding trade cooperation between China and Belarus.

Literature Review

At present, Chinese and foreign scholars' research on agricultural products trade mainly lies in the different research scope and research perspectives.

(1) Research on the policy level of agricultural product trade characteristics and trade development

Timsina, KP; Culas, RJ (2020) believes that free trade agreements can help reduce trade barriers, using the Poisson pseudo-maximum-likelihood (PPML) estimator for 24 major Australian trading partners, including FTA and non-FTA members — Research on trade data in 2017 to estimate the effects of the Australian Free Trade Agreement (FTA) on agricultural trade creation and export diversion at the overall and disaggregated levels. The results show that the agricultural sector's trade creation effect is greater than the free trade agreement's export transfer, and this result has an important impact on Australia's future trade agreements.

Andrei, J., Popescu, GH, Nica, E., & Chivu, L. (2020) believe that analyzing the impact of agricultural performance on foreign trade concentration and competitiveness is an opportunity to determine the design of functional and basic agricultural models, An important step for challenges and proactive measures. By investigating the sudden changes in competitiveness caused by the concentration and reorganization of trade flows in 26 EU member states related to Romania. Agricultural machinery performance is used in a unique data set on the output and concentration of agricultural food trade in EU countries to build a measure of trade competitiveness. The results of the study show that through the concentration of business relations, Romania's agricultural competitiveness and its

dependence on the European Economic Area have a dual relationship. Heerman, K. E. (2019) conducts research on agricultural trade policies and formulates an overall equilibrium framework that analyzes the agro-ecological characteristics affecting the specialization model of the agricultural sector and the trade costs of specific agricultural products. The results show that this novel method is used to estimate the parameters of productivity and trade cost distribution. This method draws on the techniques pioneered in the discrete selection literature. This method has considerable advantages in that it can parameterize and solve product-level conceptual models, while relying only on data other than the department-level data widely used in standard gravity models. The framework is expected to enable researchers to make more informed predictions about how global agricultural trade and production methods respond to policy changes. Mikita Kryvasheyev. (2019). Using statistics and metrology to study the implementation of the Belt and Road Initiative, China and Belarus cooperated in the field of logistics, analyzed the relationship between China-Europe trains and Belarus, and Belarus 'logistics industry and logistics infrastructure The OLS regression model was used for regression to further analyze the impact of the implementation of the "Belt and Road" initiative on Belarus's logistics management level, logistics facilities and equipment, logistics flow and flow direction.

The research results show that: China 's preferential loans for Belarus have promoted the development of Belarus 's industry, power industry, agriculture and other facilities; the cooperation between China and Belarus in the telecommunications industry has facilitated the communication of logistics information between the two countries; "One Belt One Road" The implementation of the initiative has promoted the training of talents in the logistics industry in Belarus, and increased the exchange of employees and talents in the logistics industry; the Chinese government subsidies have promoted the development of railway transportation between China and Europe, which has greatly increased the number of trains passing through Belarus, and Belarus 'transit tariff income The total amount has been greatly increased, which has a positive effect on promoting economic development. Zhao Jingrui, Sun Hui (2019). Based on the bilateral trade data between China and the countries along the "Belt and Road" from 2003 to 2017, using social network analysis methods to study the bilateral trade interaction between China and the countries along the "Belt and Road". The research results show that China has become the core country in the "Belt and Road" trade network. The "Belt and Road" trade network has formed three trade sub-groups: China-Southeast Asia, South Asia-West Asia, Central and Eastern Europe-Central Asia, and China is in an ASEAN country. It is the trade subgroup of the main participating countries. There are obvious structural differences between different trade subgroups. The China-Southeast Asia subgroup exhibits an internal trade structure, the South Asia-West Asia trade subgroup exhibits core-margin characteristics, and the Central and Eastern Europe-Central Asia subgroup exhibits a decore structure. Liu Chunpeng, Xiao Haifeng. (2018). According to the UN Comtrade database, a constant market share model was used to study the growth factors

of agricultural trade between China and 16 Central and Eastern European countries from 1995 to 2014. The results show that the increase in market demand in the 16 countries of Central and Eastern Europe is the most important factor in promoting the growth of China's agricultural product exports, but neither the structure of export products nor the distribution of export markets has played its due role, which is not conducive to the export of Chinese agricultural products; The main factors driving the export growth of agricultural products in the 16 Central and Eastern European countries, but the unreasonable export product structure has led to the decline in the export of agricultural products from 16 Central and Eastern European countries to China in recent years.

(2) Research on the characteristics and differentiation of agricultural products trade

Mengyang Qi (2020) used data from the United Nations Commodity Trade Database from 2008 to 2017 to conduct research on agricultural trade patterns between China and 16 Central and Eastern European countries, including agricultural trade competitiveness, complementarity and trade potential. The results show that China and 16 Central and Eastern European countries have strong competitiveness in many categories of agricultural products, but there are significant differences in agricultural product export advantages and trade complementarity between different countries. The trade links between China and these countries are loose, and there is a broad future. Potential for trade development. In terms of policy, China should make full use of the "16 + 1" cooperation mechanism to expand agricultural trade between China and these countries. Gao Guixian, Xu Wen. (2020), using the agricultural trade data of the United Nations Commodity Trade Database from 1998 to 2017, to study the current situation of agricultural trade between China and Central and Eastern European and Central Asian countries. The results show that the trade volume of agricultural products of both sides is increasing rapidly, the variety of trade is constantly enriched, the trade mode is mainly inter-industry trade, and the mutual competitiveness is not strong, but the complementarity is strong. Therefore, China should strengthen agricultural product import trade with Central and Eastern European and Central Asian countries, and provide support for diversification of agricultural products in the Chinese market. Yuan Fei, Li Hao. (2019) believes that China and Belarus took the opportunity to jointly promote the implementation of the "Belt and Road" initiative to push the bilateral trade cooperation to a deeper level. Through a study of the current status of the bilateral trade, it was found that the two countries' economic and trade cooperation It has great potential and strong industrial complementarity; however, there are economic system differences in economic and trade cooperation between the two countries, Belarus's domestic inflation and unstable economic development, and low trade facilitation. In the future, the two countries should continue to deepen their comprehensive strategic partnership, build a long-term cooperation mechanism between the two countries, improve the level of investment facilitation, and other measures to promote the deepening of trade and investment cooperation. Liu Chunpeng, Xiao Haifeng.

(2019). A study of the competitiveness, complementarity and development potential of agricultural products trade between China and the Nordic countries from 1995 to 2015, the results confirm: the complementarity of Chinese agricultural products exports with the agricultural product imports of Sweden, Denmark and Iceland Stronger and less complementary with Norway and Finland. The agricultural products export of the Nordic countries and the import of Chinese agricultural products are not highly complementary; the agricultural product exports of China and the Nordic countries are competing in the world market. In the future, China should strengthen agricultural trade cooperation with the Nordic countries. Wang Chen, Ji Yalan, Zhang Mei. (2018). Using the agricultural trade data between China and Kazakhstan from 2008 to 2016 as a sample, we conducted a competitive and complementary analysis of the agricultural trade between the two countries. The results show that after China and Kazakhstan jointly promoted the implementation of the “Belt and Road” initiative, China ’s agricultural exports to Kazakhstan did not increase significantly, but imports increased significantly, and China ’s agricultural trade was in a surplus position. China's seafood exports are highly competitive, while Kazakhstan's grain and textile fiber exports are highly competitive. China and Kazakhstan have strong trade complementarity in vegetables, fruits, oil seeds and olive fruits, and textile fibers. Huirong Zhao (2017) uses AHP to analyze the international relations between China and Belarus, the geographical profile, ethnic composition, and factors of decision makers, etc., to reveal the reasons for the development of relations between the two countries. The results show that in order to further promote the development of economic and trade relations between China and Belarus, the two sides need to continue to strengthen cooperation in the political, economic, transportation, humanities and other fields, split the political and economic relations, follow the laws of the market to carry out economic cooperation, and safeguard common interests and security.

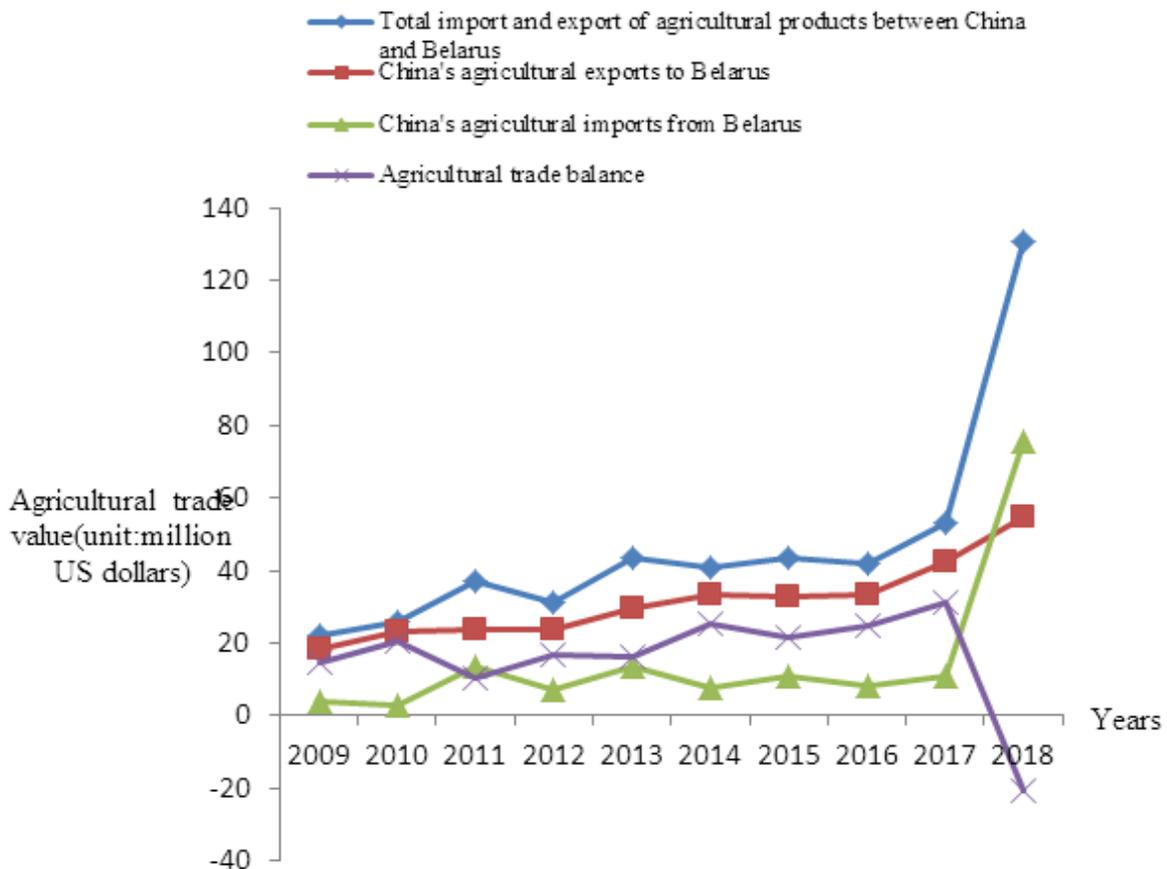
Research Results and Discussion

Analysis of Agricultural Trade and Commodity Structure between China and Belarus

(1) Analysis of changes in the total volume of agricultural trade between China and Belarus
From Figure 1, we can see that the scale of agricultural trade between China and Belarus has expanded in 2009-2018. The total trade volume of agricultural products between China and Belarus in 2009 was 22.28 million US dollars, and the highest in 2018 was 130.64 million US dollars, an increase of 486.36%. . Affected by the global financial crisis in 2009, the trade volume was the lowest value during the statistical period; then the total trade volume between the two countries in 2009-2017 showed a steadily increasing trend. The total trade volume between the two countries in 2017 was 53.09 million US dollars. An increase of 138.29%. In the agricultural trade between China and Belarus from 2009 to 2017, China ’s exports of agricultural trade to Belarus have always been greater than imports, and China is in a surplus position in the agricultural trade between the two countries; The rapid growth has occurred,

the main reason being that China's imports of agricultural products from Belarus have increased sharply. From 2009 to 2017, the average annual growth rate of China's imports of agricultural products from Belarus was 47.94%. It was 10.82 million US dollars, and it was 75.67 million US dollars in 2018. The growth rate from 2017 to 2018 reached 599.35%. At the same time, China's agricultural exports to Belarus were 18.42 million US dollars in 2009 and 54.97 million US dollars in 2018. From 2009 to 2018, the average annual growth rate of China's exports of agricultural products to Belarus was 13.60%, which is a steady growth. In 2018, China and Belarus had a deficit for the first time in the import and export of agricultural products. The main reason for this situation is that in the second half of 2016, after high-level exchanges between Chinese and Belarusian state leaders, the two countries signed an agreement in 2017 to further strengthen cooperation in the field of agricultural products. In 2018, China imported from Belarus The trade volume of agricultural products has increased significantly, especially dairy products, which has increased more than 8 times compared with 2017, which is conducive to the diversification of China's imports of agricultural products. Belarus' high-quality agricultural products have also enriched China's different consumption levels.

Figure 1. Changes in agricultural trade between China and Belarus from 2009 to 2018



Data source: Calculated according to UN Comtrade database

From Table 1, we know that the proportion of agricultural products trade between China and Belarus in Belarus and the world's agricultural products trade is generally an upward trend. From the statistical year, the proportion in 2014 was the lowest, 0.23%, and the highest growth reached 1.89% in 2018, of which 1.30% in 2016, 0.85% in 2009, and the average annual growth rate for the statistical year is 52.94%;

In 2009, Belarus' imports of agricultural products from China accounted for 1.66% of Belarus' imports of agricultural products from the world. In 2018, it was 2.35%, and the average annual growth rate for the statistical year was 0.99%. In 2009, Belarus' exports of agricultural products to China accounted for Belarus' exports of agricultural products to the world. The proportion of exports is 0.01%, in 2018 it was 1.43%, and the average annual growth rate in the statistical year was 5.34%; both showed a positive growth rate, indicating that China and Belarus' agricultural trade has a growth potential in Belarus and the world's agricultural trade. However, from the perspective of the proportion of agricultural trade between China and Belarus in China and the world's agricultural trade, it is basically a flat state; from the statistical year, the proportion in 2012 is the lowest, 0.02%, the highest increased to 0.07% in 2018, of which 0.03% in 2016, 0.03% in 2009, the average annual growth rate in the statistical year is 0.38%; China's imports of agricultural products from Belarus in 2009 accounted for 0.01 of China's imports of agricultural products from the world %, 0.06% in 2018, and the annual average annual growth rate for the statistical year is 1.25%; China's agricultural exports to Belarus accounted for 0.04% of China's world agricultural exports in 2009, and 0.06% in 2018, the annual average growth rate for the statistical year It is 0.13%; although both have a positive growth rate, the trade in agricultural products between China and Belarus has not developed much in the share of agricultural trade between China and the world. From another perspective, it can also be said that in the agricultural trade between China and Belarus, Belarus depends more on the Chinese market than China depends on the Belarusian market. Citing Belarus' report on the TUT.BY portal on August 22, 2017, Belarusian Deputy Prime Minister Ruther stated that China has become one of the most promising and important export markets for Belarusian agricultural products.

Table 1: China and Belarus agricultural trade flows and changes in proportion

Unit: Million USD,%

Types	project	Trade flow	2009	2012	2014	2016	2018
The status of Chinese agricultural products trade in Belarusian agricultural products trade	Import	Belarus imports of agricultural products from China	40.24	63.30	20.70	99.78	105.62
		Belarus imports from world agricultural products	2429.16	3775.77	4922.44	4123.18	4498.45
		Belarus import ratio from China	1.66	1.68	0.42	2.42	2.35
	Export	Belarus exports to China's agricultural products	0.26	6.52	3.12	7.49	74.80
		Belarus exports to world agricultural products	2321.35	4614.01	5409.85	4111.09	5220.35
		Belarus to China export ratio	0.01	0.14	0.06	0.18	1.43
	lump sum	Total import and export of agricultural products between Belarus and China	40.50	69.82	23.83	107.27	180.42
		Belarus's total value of imports and exports of agricultural products in the world	4750.51	8389.78	10332.29	8234.27	9557.63

		Belarus-China import / export ratio	0.85	0.83	0.23	1.30	1.89
The status of Belarusian agricultural trade in China's agricultural trade	Import	China's agricultural imports from Belarus	3.86	7.37	7.91	8.48	75.67
		China's imports of agricultural products from the world	54670.54	114421.78	124334.46	113042.84	136173.47
		China's import ratio from Belarus	0.01	0.01	0.01	0.01	0.06
	Export	China's agricultural exports to Belarus	18.42	23.89	33.11	33.22	54.97
		China's agricultural exports to the world	49443.58	78515.57	88188.66	88238.89	95414.90
		China to Belarus export ratio	0.04	0.03	0.04	0.04	0.06
	lump sum	Total import and export of agricultural products between China and Belarus	22.28	31.26	41.03	41.70	130.64
		China's total import and export of agricultural products in the world	75462.63	137068.84	158092.54	151992.83	178135.55
		China-Belarus import and export ratio	0.03	0.02	0.03	0.03	0.07

Data source: calculated according to UN Comtrade database

(2) Commodity structure of agricultural trade between China and Belarus

The commodity categories of agricultural trade between China and Belarus are relatively concentrated. China's exports of agricultural products to Belarus are mainly meat, fish, vegetables, fruits and food preparations. The export value increased from US \$ 11 million in 2009 to US \$ 29 million in 2018, an increase of 163.64%. The proportion of total exports increased from 54.43% in 2009 to 63.71% in 2018, and the scale gradually expanded. The agricultural products imported from China by Belarus are mainly stalks, edible fruits, nuts and other food preparations, fish, vegetables, cotton, etc. The import value increased from US \$ 28 million in 2009 to US \$ 74 million in 2018, an increase of 164.29%. The proportion of total agricultural products imported from China to Belarus was 69.65% in 2009 and 70.48% in 2018, indicating that Belarus imported agricultural products from China from 2009 to 2018 with a high concentration of categories. China's agricultural products imported from Belarus are mainly dairy products, wool and its woven fabrics, animal and vegetable fats, and edible nuts. Belarusian agriculture is divided into plantation and animal husbandry. China's agricultural products imported from Belarus are mainly animal husbandry products; The share of Belarus's major exports of dairy products, meat and meat products, wool and woven fabrics, animal and vegetable oils and fats to China shows an upward trend. The export value has increased from US \$ 0.02 billion in 2009 to US \$ 73 million in 2018. An increase of 37 times.

Competitiveness and Complementarity of Agricultural Trade between China and Belarus

(1) RCA index of agricultural trade between China and Belarus

The RCA index, the Index of Displayed Comparative Advantage, was proposed by American economist Balassa in 1965. It reflects the share of an industry in a country or region in international trade without taking into account the impact of changes in national and world aggregates. Comparative advantage. Calculated as follows:

$$RCA_{ab} = \left(\frac{X_{ab}}{X_{at}} \right) / \left(\frac{X_{\omega b}}{X_{\omega t}} \right)$$

Among them, X_{ab} and X_{at} represent the export value of b products produced by country a and the total export value of country a respectively, $X_{\omega b}$ and $X_{\omega t}$ represent the export value of world b products in the same period and the total export value of the world in the same period. According to experience, when $RCA_{ab} < 0.8$, the product or industry of country a has no competitive advantage in international trade; $0 < RCA_{ab} < 1$, the product or industry of country a has a comparative advantage in trade; $RCA_{ab} > 1$, which means country a b products or industries have a relatively large competitive advantage in international trade; $RCA_{ab} > 2.5$,

indicating that country b products or industries have a strong competitive advantage in international trade.

From Table 2, we can see that there are obvious differences in the RCA index of various agricultural products in China and Belarus in 2018. In 2018, none of the Chinese agricultural products had an $RCA > 2.5$, indicating that Chinese agricultural products generally do not have strong export competitiveness. Agricultural products with $RCA > 1$ include HS05 (animal-derived products), HS07 (stalks), HS13 (gums, resins, vegetable juices and extracts), HS14 (vegetable products), HS16 (meat, fish) And seafood preparations), HS51 (wool, animal hair and woven fabrics), HS52 (cotton), indicating that China 's agricultural products have certain advantages in export competitiveness. In 2018, Belarusian agricultural products have $RCA > 2.5$ categories: HS02 (meat and meat products), HS04 (dairy products, eggs, honey and food animals), HS07 (stalks), HS16 (meat, fish) And seafood preparations), HS17 (sugar and confectionery); shows that Belarus 's agricultural products in these categories have strong export competitiveness, especially HS04 (dairy products, eggs, honey and food animals) has an RCA index of 12.80 It has an absolute advantage in export, which is also a significant result of Belarus's focus on the development of animal husbandry. In addition, among the Belarusian agricultural products, $RCA > 1$: HS06 (live trees, live plants), HS11 (starch, inulin, milled products), HS15 (animals, vegetable oils), HS19 (cereals, flour) , Milk products, etc.), HS23 (animal feed). The above analysis shows that as a large agricultural country, China is rich in various agricultural products, but because China is the most populous country in the world, agricultural products and food mainly meet domestic demand, and it is not highly competitive in agricultural product export trade; while Belarus The terrain in the territory is mostly plains and basins. The climate and soil are very suitable for the growth of crops. The per capita arable land is sufficient. The agricultural products meet the domestic demand and are mainly used for export. Focusing on the development of animal husbandry, it has achieved significant results in exports. For example, exports of dairy products have absolute advantages.

Table 2: RCA index of various agricultural products in China and Belarus in 2018

HS code	Category	China Agricultural Products RCA Index	Belarus Agricultural Products RCA Index
01	Live animal	0.19	0.15
02	Meat and meat products	0.05	3.61
03	Fish, carapace, molluscs, other aquatic invertebrates	0.83	0.62
04	Dairy products, chicken eggs, honey, food animals	0.05	12.80

05	Products of animal origin	1.70	0.53
06	Live trees, other live plants, bulbs, roots, etc.	0.13	2.27
07	Stem	1.15	2.50
08	Edible fruits, citrus and nuts	0.33	0.69
09	Tea, coffee, cocoa, seasoning and their products	0.56	0.04
10	Cereals	0.06	0.01
11	Milled products, malt, starch, inulin, wheat gluten	0.31	1.34
12	Oilseeds, oil fruits, cereals, seeds, fruits, etc.	0.21	0.12
13	Shellac, gums, resins, vegetable juices and extracts	1.44	0.16
14	Vegetable knitting materials, vegetable products	1.06	0.10
15	Animal, vegetable fats and oils, cracked products	0.09	1.34
16	Meat, fish and seafood preparations	1.42	3.50
17	Sugar and sweets	0.34	2.81
18	Cocoa and cocoa preparations	0.06	0.76
19	Cereals, flour, milk products and products, etc.	0.19	1.11
20	Vegetables, fruits, nuts and other food preparations	0.94	0.71
21	Miscellaneous food preparations	0.36	0.46
22	Drinks, spirits and vinegar	0.15	0.96
23	Residues, food industry waste, animal feed	0.30	1.19
24	Tobacco and artificial tobacco substitutes	0.24	0.00
51	Wool, fine animal hair, horse hair yarn and its woven fabric	1.29	0.68
52	cotton	2.02	0.29

Data source: calculated based on the 2018 data of the UN Comtrade database

(2) China and Belarus TCI index

The Trade Complementarity (TCI) index was proposed by Anderson, Norheim, and Vaillant in 1993 and 2001, respectively. It is used to calculate the correspondence between the export product structure of one country and the export product structure of another country, and to measure the closeness of trade With complementary degrees. When $TCI > 1$, the trade complementarity between the two sides is strong; $TCI < 1$, the trade complementarity between the two sides is not obvious. Calculated as follows:

$$TCI_{AB} = \sum_k \theta^i \times RXS_A^i \times RMS_B^i$$

among them:

$$RXS_A^i = \frac{X_A^i / X_A^T}{X^i / X^T} = \frac{i \text{ commodities 'export share in country A 's sector S}}{i \text{ Commodities 'Export Share in the World S Sector}}$$

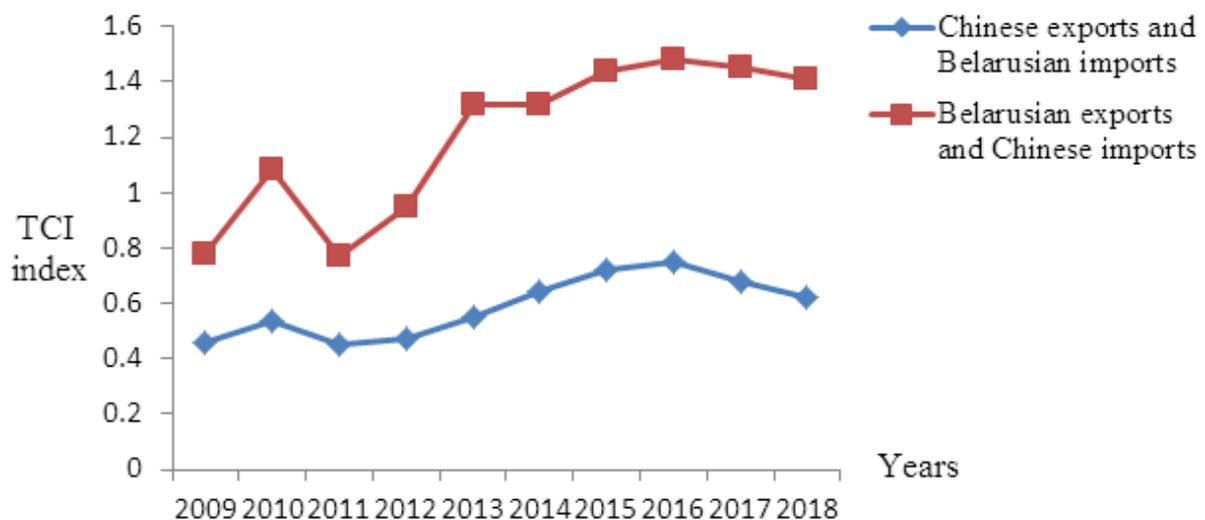
$$RMS_B^i = \frac{M_B^i / M_B^T}{X^i / M^T} = \frac{i \text{ commodities 'share of imports in country S 's sector S}}{i \text{ Commodities' Import Share in the World S Sector}}$$

$$\theta^i = \frac{X^i}{X^T} = i \text{ Commodities 'Export Share in the World S Sector}$$

From Figure 2, we can know that the TCI index of China's export trade to Belarus from 2009 to 2018 has been smaller than the TCI index of China's import trade from Belarus, indicating that China is the main importer of agricultural products in Belarus and China is the main market for Belarusian agricultural exports. From 2009 to 2018, the TCI between China 's exports of Belarus 's imported agricultural products was less than 1, indicating that China 's agricultural products exported to Belarus did not meet the Belarusian import demand, and trade complementarity was weak. The main reason for the weaker complementarity of China 's export of agricultural products to Belarus is the declining competitiveness of Chinese agricultural products. The Chinese government has made great changes in the adjustment of industrial structure. Second, the tertiary industry has achieved rapid development, and the export of agricultural products is relatively In bad situation. In addition, after China's accession to the WTO, tariffs on agricultural product imports have been reduced. At the same time, rapid economic development has made domestic demand grow faster and more diversified. A large number of imported agricultural products have poured into the Chinese market, while diversifying the agricultural product market. To a certain extent, it also weakens the competitiveness of China's agricultural products. From 2009 to 2018, the TCI index of Belarusian exports and Chinese imports showed an increasing trend, and basically $TCI > 1$, indicating that Belarusian exports of agricultural products are in line with China's domestic demand, and Belarusian exports of agricultural products and Chinese imports of agricultural products are highly complementary. The main reason is that Belarus's terrain, climate, and soil are very suitable for agricultural production. The sufficient per capita

cultivated area makes Belarus very conducive to the development of agricultural products export trade. In Belarus, agricultural production and animal husbandry are very developed. In recent years, they have attached great importance to the export of agricultural products to China. At the end of 2017, Minister of Agriculture and Food of Belarus Leonid Zajac said that Belarus will export total value to China in 2018. \$ 114 million in agricultural products. From November 5 to 10, 2019, at the 2nd China International Import Expo in Shanghai, China, the Chinese company Greenland Group and the Belarus State Investment and Privatization Agency signed a strategic cooperation agreement. Greenland Group will be in the next three years Procurement of US \$ 500 million of Belarusian agricultural products, mainly including butter, cheese, milk-related products, meat and manufactured products, is expected to purchase US \$ 100 million in 2020. All these have created opportunities for Belarusian agricultural products to export to China, and there is a lot of room for development of agricultural trade between China and Belarus in the future.

Figure 2. TCI index of agricultural trade between China and Belarus from 2009 to 2018



Conclusions

(1) China and Belarus have great potential for agricultural trade cooperation. During the statistical period, the total volume of agricultural products trade between the two countries showed a growing trend, especially in 2018, the situation of rapid expansion, but the types of agricultural products trade are relatively concentrated. The agricultural products that China exports to Belarus are mainly farming agricultural products such as fish, vegetables, fruits, and cotton; while the agricultural products that Belarus exports to China are mainly dairy products, wool, woven fabrics, animal and vegetable oils, and other livestock agricultural products. This is also in line with the comparative advantages of the agricultural resources of the two countries.

(2) The comparative advantages of agricultural products between China and Belarus are significantly different. The resource endowment and competitive advantage index of the two countries indicate that the two countries have a broad space for cooperation in the trade of many types of agricultural products. For example, the terrain of Belarus is dominated by plains and basins. The development of animal husbandry is a traditional strength of Belarus and has strong competitiveness in the world market, while China's demand for livestock products such as dairy products, beef, chicken, animals and plants. There is a large space for agricultural trade cooperation between the two countries.

(3) The trade in agricultural products between China and Belarus has a strong complementarity, but during the statistical period, the complementarity of Belarusian agricultural products exported by China has been less than that of Belarusian agricultural products imported by China. This shows that China has a strong demand for Belarusian agricultural products. China has become an important agricultural product export market in Belarus. Further strengthening the agricultural trade cooperation between the two countries will bring great economic benefits to Belarus, but it will also cause Belarusian agricultural products to rely more on China market.

Recommendations

(1) Take the opportunity to promote the implementation of the "Belt and Road" initiative to strengthen trade cooperation between the two countries. Against the background of the consensus reached on the "Belt and Road" initiative, the two countries should deepen agricultural cooperation and actively promote the development of agricultural trade. On the one hand, China and Belarus can regularly hold agricultural product trade-related forums to enhance exchanges and interaction between the two countries; on the other hand, the two countries can also reduce agricultural trade tariffs and trade tariff barriers on the basis of mutual benefit, reduce trade costs, and continue to maintain the two The stability and transparency of the country's agricultural trade policy reduce the uncertainty in trade. The agricultural trade between China and Belarus is highly complementary, and the two countries should strengthen the trade of such agricultural products with large export volume and comparative advantage and rapid growth in export value, and further promote the diversification of agricultural product trade between the two sides.

(2) Improve the infrastructure construction for policy formulation and expand the space for agricultural trade with comparative advantages. Combined with the reality of the agricultural industries of the two countries, formulate reasonable agricultural development policies, optimize the agricultural industrial structure, and increase the diversification and total volume of agricultural products exports. Strengthen the infrastructure construction of agricultural



trade exchanges between the two countries, for example, establish a demonstration zone for agricultural cooperation in Belarus like the “Boulder” industrial demonstration zone between China and Belarus, and establish a pilot zone for opening up cooperation in agriculture in China to provide China with a comparative advantage for agricultural products Export to Belarus, Belarus has comparative advantages to export agricultural products to China to provide convenient conditions, and further promote the exchange of agricultural technology, quality and services of the two countries.

(3) Accelerate the implementation of trade facilitation measures, expand cross-border e-commerce and other new trade channels and trade formats, and promote the scale and level of trade between the two countries. Support cooperation between financial institutions and enterprises of the two countries, and actively use financial institutions such as Asian Infrastructure Investment Bank to provide financial support for cooperation projects. Carry out international transportation cooperation, promote the development of “Belt and Road” transportation logistics and trade information in Belarus through railways, aviation, maritime transportation, etc. Scale, and constantly expand the space for agricultural trade cooperation.



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