

A Study on Food Security in China

Congcong Hao

Southwest Minzu University Management School, Chengdu 610041, China.

Abstract

Food security is a worldwide problem. China is a country with a large population, and it attaches great importance to the issue of eating. In the spring and Autumn period, Guan Zhong said in Guanzi • Herdsman, "if you have enough food and clothing, you will know honor and Disgrace"; Sima Qian also stated in the "Historical records • Biography of Li Sheng and Lu Jia" that "Food is the first necessity of the people"; Comrade Mao Zedong pointed out in the "Declaration of the First Publication of the <Xiangjiang Review>" in 1919, "What is the biggest problem in the world? The biggest problem with eating"; Comrade Xi Jinping stressed: "China is a large country with large population. Solving the problem of eating is always the top priority in governing the country." China is a big agricultural country, and also a big country in food production and processing. Food security is very important. Based on the development and change of the concept of food security, this paper starts with the analysis of the current situation of food production and supply and demand, makes a preliminary judgment and outlook on the prospect and trend of national food security during the fourteenth Five Year Plan period, and puts forward specific countermeasures to ensure food security from the aspects of improving agricultural production facilities, mobilizing farmers' enthusiasm for grain production, cultivating soil fertility, improving the multiple cropping index of cultivated land, and advocating grain saving, etc Discussion.

Keywords

Food production, food security, demand forecast, countermeasures.

1. Introduction

China has always attached great importance to food issues since ancient times. "All kinds of grain is the lifeblood of the people and the main treasure of the country", "the warehouse has enough grain, the people can respect etiquette" and so on all illustrate the importance of the food issue. Under the leadership of the Communist Party of China, the core of the land revolution, land reform, and joint contract system was to solve the food problem. After the reform and opening up, with the influx of a large number of rural laborers into the city, it not only promoted the process of industrialization and urbanization, but also promoted the comprehensive development of the modernization of food production. In this context, the issue of food security appears to be even more important. Therefore, it is of great significance to clarify the problems in grain production and explore solutions to improve the level of grain production and ensure food security.

2. The Development of Research on Food Security Issues

Agriculture is the foundation for stabilizing state power, and food is the key to ensuring social harmony. From Guan Zhong in the Spring and Autumn Period to Jia Sixie in the Northern and Southern Dynasties, all believed that the importance of food sufficiency for social development. After the founding of New China, the party and the government attached great importance to the development of grain production and the grain industry. At the same time, the international

community has also paid close attention to the issue of food security. It has enriched the concept and connotation of food security on many occasions and provided a basis for research on world food security.

2.1. Food Output Capacity Is the Core of Ensuring Food Security

In November 1974, the "International Agreement on World Food Security" adopted by the Food and Agriculture Organization of the United Nations first proposed the concept of food security, which is to ensure that people can get the food they need for life. This definition fundamentally explains that the quantity of food supply is the core of food security, is the root of ensuring human survival, health and development, and is the top priority of safeguarding national food sovereignty. In a period of severe recession in the world economy, inflation in most countries, "global stagflation" and the spread of hunger and poverty, the concept of food security proposed can only use the quantity of food supply as the only solution to the world's hunger problem.

If a country does not have enough food supply, then this country has no food sovereignty [1]. Therefore, to ensure the growth of its own grain production capacity and the guarantee of its supply capacity under normal conditions, it is necessary to increase the grain output capacity, take stable grain output as a premise, on the basis of the existing cultivated land resources, we will continuously increase the double-cropping index of grain crops and the output per unit area, promote a steady and sustained increase in grain production, and further promote the sound and rapid steady development of the grain industry[2].

2.2. Resident Income Level Is the Basis for Ensuring Food Security

In April 1983, the Food and Agriculture Organization of the United Nations further stated that the ultimate goal of food security is to ensure the food people need for basic living, so that all residents can "There is enough food to buy" to "There is enough money to buy". The definition of food security not only requires the country to have enough food output to meet social needs, but also residents must have enough income to afford the food they consume.

The change from "There is enough food to buy" to "There is enough money to buy" also fully demonstrates that food security not only emphasizes the quantity of national food supply from a macro perspective, but also attaches importance to the purchasing power of households from a mesoscopic perspective. This is a measure of the ability of households to obtain enough food to ensure their survival needs.

Safeguarding food security from production-oriented to supply-demand simultaneous attention is an inevitable result of profound changes in the world economy. To explore this multi-dimensional demand concept is much more complicated than studying food supply security [3]. To ensure household food demand, raising residents' income and stabilizing food prices are the basis. However, if the farmers are injured due to low prices, it will not only affect the income level of the grain farmers and the ability to guarantee their living needs, but may also lead to the supply of food on the safe supply side. Therefore, only by implementing effective countermeasures and establishing a unified "win-win" relationship in achieving the coordination of food security and increasing residents' income can we ensure the full implementation of the anti-poverty strategy and food security goals[4].

2.3. Food Quality Is the Source of Ensuring Food Security

In November 1996, the Rome Declaration on World Food Security stated that "in accordance with the right to adequate food, reaffirming the right of people to secure and nutritious food"[5], stressing the importance of food quality in food security. Incorporating the quality of food and people's preference for food into the category of food security has raised the threshold of food security and has become a widely recognized and applied concept of normative food security.

The release of the concept of food security that attaches importance to food quality has microscopically paid attention to the health issues of personal nutrition and safety, marking the goal of food security from a low-level "can fill the stomach" to a high-level "can eat high-quality food". The "change" also deepens the connotation of food security. Judging from the structure of Chinese characters, good rice is "grain" and the food that makes human body and mind healthy is "food". Everyone can understand that only good food that protects people's physical and mental health can be called "food", which fully reflects China The wisdom of the ancestors of the nation and the original intention of creating characters.

As the saying goes, "people take food as the sky, and food as the first condition of safety". The ultimate goal of food security and food quality is to solve the problem of human "eating," but "to be able to fill the stomach" is to solve the problem of human survival, is the primary goal of food security, and "can eat high-quality food "It is a solution to human development and the ultimate goal of food security. If residents cannot adequately obtain food of safe quality or affect health due to the quality of food, they cannot meet the requirements of food security [6].

3. Analysis on the Current Situation of Grain Supply and Demand in China

The core of food security is the quantity of grain supply, and the key factors to ensure food security are sown area, multiple cropping index and yield per unit area. Arable land is the basis of grain production. Statistics show that by the end of 2016, the area of arable land in China was 134.921 million hectares, an increase of 37.054 million hectares over 97.867 million hectares in 1949, an increase of 37.9% and an average annual increase of 0.6 %. The relevant statistics also show that the cultivated land area in China has shown a trend of fluctuating development since founding ceremony of the People's Republic of China (see fig.1) . Therefore, building a strong line of defense for cultivated land protection is a basic work and a key measure for ensuring food security.

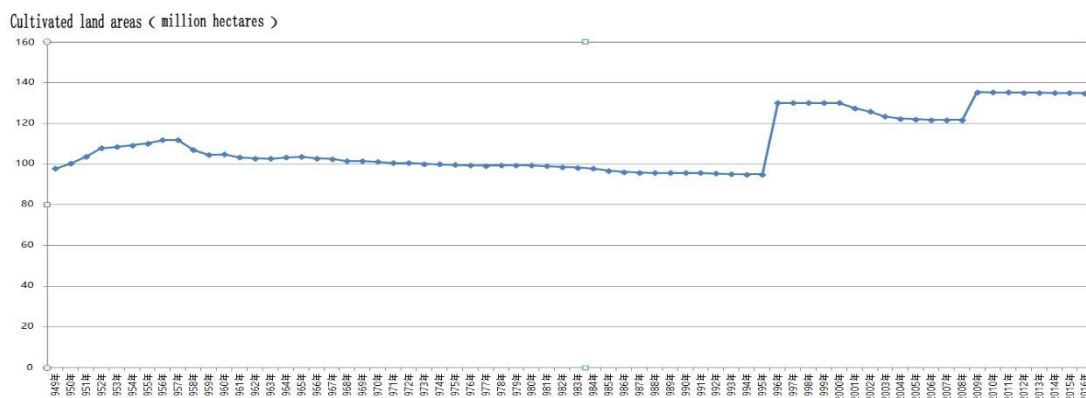


Fig 1. The curve of cultivated land area in China, 1949—2016

3.1. The Sown Area of Crops Has Increased Steadily, and the Sown Area of Grain Has Continued to Grow

China's statistics show that in 2019, the planting area of crops in China was 165.931 million hectares, an increase of 41.645 million hectares, or 33.5%, compared with 124.286 million hectares in 1949, with an average annual growth of 0.4% (see Fig. 2). The sown area of grain crops was 116.064 million hectares, an increase of 6.105 million hectares, or 5.6%, compared with 109.959 million hectares in 1949, with an average annual growth of nearly 0.1%. Among them, the sown area of rice was 29.69 million hectares, an increase of 3.981 million hectares, or 15.5%, or 0.2%, compared with 25.709 million hectares in 1949; The sown area of wheat was 23.73 million hectares, or 2.214 million hectares, compared with 21.516 million hectares

in 1949, The growth rate was 10.3%, with an average annual growth rate of 0.1%; The corn planting area was 41.28 million hectares, an increase of 28.365 million hectares, 219.6%, and an average annual growth rate of 1.7%, compared with 12.915 million hectares in 1949.

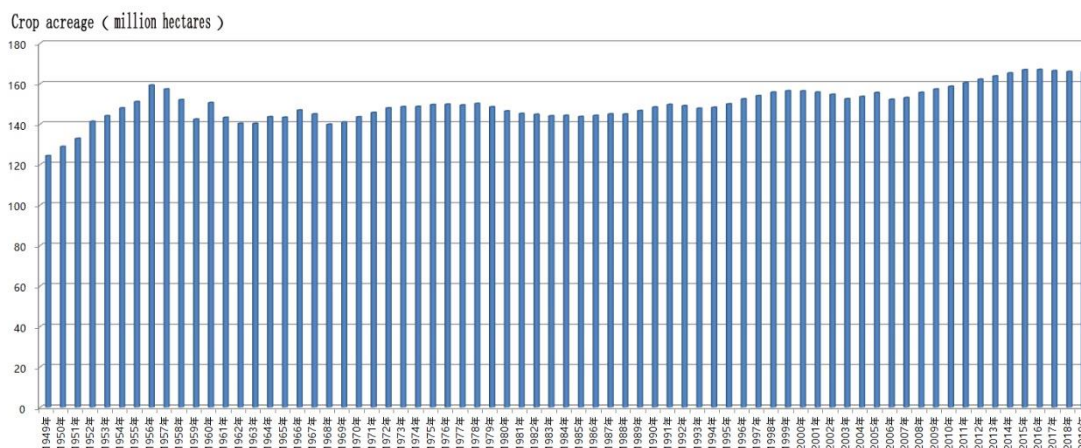


Fig 2. The curve of crop planting area in China, 1949—2019

3.2. The Grain Output Has Increased Substantially and the Income Per Unit Area Has Been Continuously Improved

Grain production has gradually stabilized, and grain production stability has gradually increased. Statistics from the National Bureau of Statistics of China show that in 1949, the total national grain output was only 113.184 million tons. By 1970, the total grain output doubled to 239.955 million tons, which lasted 21 years. By 1996, the total grain output reached the first Doubled twice, reaching 504.535 million tons, after 26 years; by 2019, the national grain output reached 663.843 million tons, 5.9 times that of 1949, and the average annual growth rate of total grain output is 2.6% (see Fig.3).

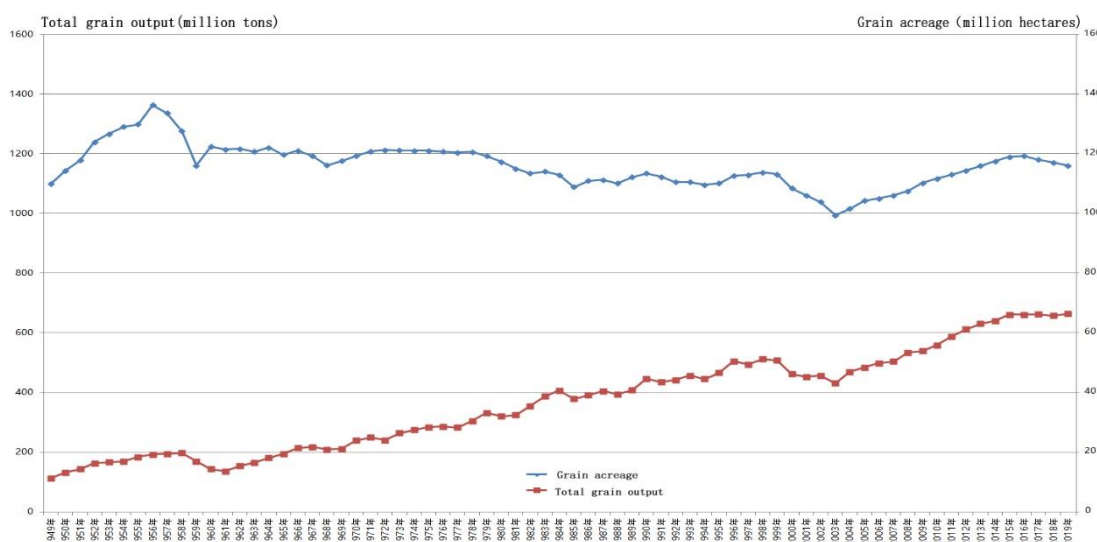


Fig 3. The curve of grain sown area and total output in China, 1949—2019

At the same time, the output per unit area of grain has also increased steadily(see Fig.4), from 1029.3 kg/ha in 1949 to 5719.7 kg/ha in 2019, an increase of 4.6 times, with an average annual increase of 2.5%. Among them, the yield of rice increased from 1892.3 kg/ha in 1949 to 7060.1 kg/ha in 2019, an increase of 2.7 times; The yield of wheat increased from 642.1 kg/ha in 1949

to 5629.8 kg/ha in 2019, an increase of 7.8 times; The corn yield has increased from 961.7 kg/ha in 1949 to 6317.3 kg/ha in 2019, an increase of 5.6 times.

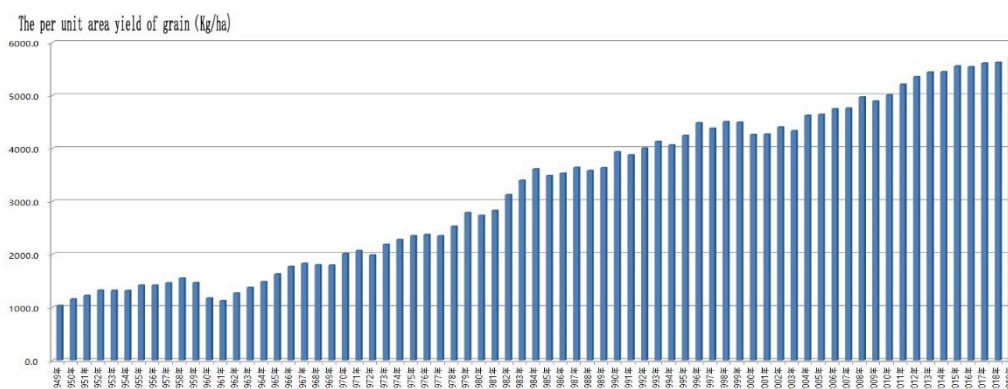


Fig 4. The Grain yield curve in China, 1949—2019

3.3. The Per Capita Grain Production Is Increasing Day by Day, and the Grain Social Reserve Structure Is Reasonable

One of the important indicators to measure food security is the per capita food production. Statistics from the National Bureau of Statistics show that since the founding of New China, the average amount of grain produced by residents across the country has been increasing (see Fig.5). In 2019, the national per capita grain production was 474.2 kg, 1.3 times the 208.9 kg in 1949, and the per capita increase was 265.2 kg, an average annual increase of 1.2%. At the same time, the three-level reserve system of government, enterprises and farmers is a common form of social reserves in grain reserves. Since the founding of New China, my country's grain reserves have initially formed a unified system based on the unified leadership of the central government, with central reserves and local reserves, government reserves and enterprise reserves complementing each other and developing in concert. Through continuous reform and improvement of the grain reserve management system and mechanism, my country's grain reserve has moved from a traditional grain reserve system to a modern grain reserve system centered around the construction of a modern economic system and high-quality development [7].

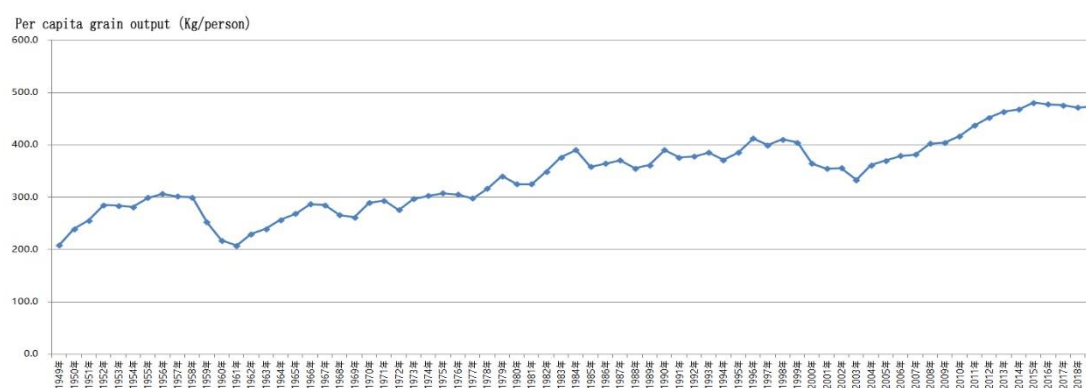


Fig 5. The Per capita grain production curve in China, 1949—2019

3.4. The Demand for Food Has Increased Rapidly and the Demand Structure Has Changed Significantly

Since the founding of the People's Republic of China 70 years ago, great changes have taken place in the nation's grain supply and demand relationship. From 1949 to 1978, due to the shortage of food, the only basic food requirement was to fill the stomach. However, due to low

food production, the food for the most basic survival needs cannot be met because of lower production, and food is in short supply. After the reform and opening up, with the continuous improvement of rural productivity and the full use of agricultural science and technology, grain output has increased rapidly, which not only solves the problem of eating, but also provides abundant raw materials for grain processing. At the same time, the grain demand structure has also undergone significant changes. The dietary varieties of residents are mainly wheat and rice, and continue to remain stable and decline slightly. Feed and industrial grain have become the main body of food consumption. Corn, as the first variety of feed and industrial grain, will still maintain a strong and rapid growth trend, and the proportion of wheat in industrial grain will also be further significantly increased.

4. Judgment and Prospect of National Food Security Trends during the "Fourteenth Five-Year Plan"

The "Fourteenth Five-Year Plan" is a period of improvement for my country to build a moderately prosperous society in an all-round way. In early 2020, a sudden outbreak of COVID-19 swept the world. Some countries blocked the ports and restricted food exports, which led to a red light in the global food supply chain. The food crisis theory has come back. The Food and Agriculture Organization of the United Nations also warned that the outbreak could affect food security in some countries and regions. But China's food security has always been tightly controlled by the Chinese themselves, and years of bumper harvests, ample grain stocks and a high level of Food self-sufficiency ratio are important capital for the country. With the continuous improvement of agricultural production technology, the increase of Mechanised agriculture rate, the gradual promotion of international leading varieties such as super hybrid rice, distant hybrid wheat, compact hybrid corn, etc. , the large-scale application of scientific fertilization, water-saving irrigation and Green Prevention and control technologies has continuously enhanced the grain production capacity. It is expected that during the period of the 14th five-year plan, China's grain output will steadily and continuously increase, the grain production structure will be further optimized, the varieties and quality of grain will continue to be optimized and upgraded, the grain supply and demand structure will become more reasonable, and the degree of food security will be strengthened day by day.

4.1. The Total Grain Supply Continues to Grow

4.1.1. Strong Food Production Power Is the "Foundation" of National Food Security

Since 2004, China has established a food security strategy of "based on me, based on the domestic market, ensuring production capacity, moderate imports, and technological support", and put forward a new food security concept of "basic grain self-sufficiency and absolute food security". A series of highly effective measures, the comprehensive improvement of grain production, firmly holding the Chinese people's rice bowls in their hands, the country's grain has been in high yields for 16 consecutive years. China has achieved a good harvest of grain and abundant warehouses. Statistics from the National Bureau of Statistics show that the national grain output in 2019 reached 663.84 million tons, 1.54 times that of 2003, with an average annual increase of 2.7%; the per capita grain output was 474.2 kg, which was 1.42 times that of 2003, with an average annual increase of 2.2%; The average yield per hectare is 5719.8 tons, which is 1.32 times that of 2003, with an average annual increase of 1.8%. The self-sufficiency rate of cereals exceeds 95%, and the self-sufficiency rate of rice, corn and wheat remains above 98%.

4.1.2. The Stable Grain Planting Area Is the "Dinghaishenzhen" of National Food Security

Food security is basically arable land. "Hide the grain in the ground" fully shows that hardware will determine the productivity and output rate of grain for a long time. For a long time, China has adhered to the red line of 120 million hectares of cultivated land, implemented a balance between occupation and compensation, and strictly guarded against death; protected 103.1 million hectares of permanent basic farmland, implemented special protection, and ensured that the quantity and quality will not be reduced; 70.5 million hectares of grain production functional areas and important agricultural products are designated Production of protected areas, realizing the drawing of protected area maps on the map, the pictures enter the database, Implemented in administrative villages, and implement to the farmers. Stabilize the grain sowing area of Chinese granaries in Northeast China, Central Plains, Taihu Subei, Jiangnan Plain, Hexi Corridor, Xinjiang Agricultural Reclamation, etc., and firmly hold the Chinese people's own rice bowls; strengthen the construction of high-standard farmland and turn the "land produced by the sky" into the past The crisscross "ton grain field". According to the statistical yearbook of the National Bureau of Statistics, in 2019, the national grain planting area was 116.06 million hectares, 1.17 times that of 2003, with an average annual increase of 1.0%.

4.1.3. Sufficient Grain Stocks Have Become Stable "Stabilizers" In The Grain Market

China's grain depots are everywhere, and grain inventories include government reserves, policy grains, and corporate turnover inventories, forming a grain inventory system in which central and local reserves operate in concert, and government reserves and enterprise inventories complement each other. The central grain reserve is the "ballast stone" for ensuring national food security, and the appropriate storage rate is over 98%; the local grain reserve is the "first line of defense" for ensuring national food security. Among them, the reserve scale of the grain sales area, the main grain production area and the grain production and sales balance area are all at historically high levels. Statistics show that the food stocks of the government and enterprises can meet the consumption of domestic residents for 13 months. Among them, the supply of rice is abundant, with a surplus of 14.3 million tons in 2019, which is characterized by phased surplus; the balance of wheat supply and demand is balanced, with a surplus of 14 million tons in 2019, an increase of 8.7 million tons year on year. Both rice and wheat are under the pressure of destocking.

4.2. The Overall Grain Demand Is Stable

4.2.1. The Total Amount of Food Consumed for Living Is Developing Steadily

Statistics show that from 1992 to 2019, China's wheat consumption increased from 103.382 million tons to 111.202 million tons. In 28 years, it only increased by 8%, and the average annual growth rate was only 0.33%. The consumption of rice has increased from 179.964 million tons in 1993 to 203.196 million tons in 2019. In 27 years, the consumption has only increased by 13%, and the average annual growth rate is only 0.54%. Although my country's total population continues to grow, the annual consumption of rice and wheat as staple foods has been limited. As the income level of residents continues to increase, in the process of changing from "full food" to "eating well", residents are more pursuing food diversification, and consumption of staple foods such as wheat and rice will naturally decrease. Therefore, During the "Fourteenth Five-Year Plan" period, the total annual consumption of staple foods will remain stable as a whole, and will even decline slightly.

4.2.2. Feed Use Grain Showed Recovery Growth

Affected by factors such as the decline of the "pig cycle" and the impact of the African swine fever epidemic, the national pig production capacity has continued to decline for five consecutive years. Pork production decreased from 58.208 million tons in 2014 to 42.55 million

tons in 2019, a decrease of 26.9%, with an average annual decrease of 6.1%. Especially in 2019, the production of live pigs showed a sharp decline. According to the monitoring of the Ministry of Agriculture and Rural Affairs, the live pig inventory decreased by 37.7% year-on-year in December 2019, the number of capable sows decreased by 31.4% year-on-year, and the cumulative annual slaughter volume decreased by 24.6% year-on-year. Although the poultry industry is more optimistic, the demand for feed and grain consumption has declined significantly. During the "Fourteenth Five-Year Plan" period, stimulated by a series of strong national support policies, the restorative production momentum of the hog industry developed strongly, driving the restorative growth of feed grain.

4.2.3. Demand for Industrial Grain Growth Is Strong

With the development of social economy and the improvement of the living standards of the residents, the overall demand level of China's industrial grain is increasing. Relevant data shows that in China's grain consumption structure, the proportion of industrial grain consumption has been continuously increased, gradually rising from 20% to 25%. It is expected that during the "Fourteenth Five-Year Plan" period, it will still maintain a rapid growth trend, especially with the reform of the corn purchase and reserve system, and the gradual implementation of related measures, the production profit and economic benefits of the grain industry will continue to increase, especially corn processing. From the traditional chemical and mechanical separation to the further development of biotechnology, the corn deep processing industry chain will be further extended, and the demand for corn-based industrial grain is expected to continue to grow rapidly. At the same time, the gradual operation of the development of biofuels strategic goals has accelerated the pace of the rise of fuel ethanol and biodiesel, which not only stimulated the domestic food consumption market and demand expectations, but also further triggered deep-level changes in the consumption and consumption structure of the food industry.

4.3. The Impact of International Food Trade with Limited Surplus Is Limited

Moderate imports are an important connotation of my country's new national food security strategy. Due to structural problems in China's grain production, Need to adjust excess and shortage through import and export, optimize the supply structure, Improve the overall level of national food security from a higher level.

According to an international report issued by the United Nations, global food security problems have become unprecedentedly outstanding, and the food supply crisis has been unprecedentedly serious. By the end of 2019, more than 130 million people from 55 countries are facing food insecurity, and more than 70 million children are experiencing health problems due to hunger. Among them, the impact of climate factors and the economic crisis on severe food insecurity is increasing day by day. COVID-19 will affect countries with fragile political, economic, security and health conditions to varying degrees. Therefore, In COVID-19 during the epidemic, India, Russia, the United States, Kazakhstan, Vietnam, Serbia and other countries have successively formulated measures to restrict food exports, which has brought great challenges to the world's exceptionally outstanding food security issues.

As a major country in grain production, consumption and trade, China has a stable grain production capacity, grain consumption level and grain trade price, and a grain supply structure with a high guarantee rate and a high self-sufficiency rate. Stock pressure. The current ban on food exports by food exporting countries in some countries may exacerbate fluctuations in food supply in the international market, which not only has a very limited impact on China, but also helps China to digest unreasonable food inventories and reduce the pressure on some domestic food varieties.

5. Countermeasures and Suggestions for Ensuring Food Security

5.1. Adhere to the Red Line of Cultivated Land Protection and Strictly Protect Permanent Basic Farmland

Cultivated land is the foundation of food security. Adhere to the most stringent farmland protection system and the most stringent land-saving system, implement the strategy of "Hide the grain in the ground, hide the grain in the technology", with the goal of ensuring national food security and agricultural product quality and safety, strengthen the number of cultivated land, the quality of cultivated land, the ecological environment "Trinity" protection, build a new pattern of permanent basic farmland special protection with strong protection, intensive and efficient supervision and strict supervision, and firmly hold the red line of cultivated land. Incorporate permanently cultivated land, especially basic farmland database, into the "One Map" of land and resources remote sensing monitoring and comprehensive supervision platform in a timely manner, and unify the standards for the delineation, construction, supplementation, management and database construction of permanent basic farmland. Improve the quality monitoring network of cultivated land and permanent basic farmland, and conduct a comprehensive evaluation of the quality level of cultivated land and permanent basic farmland nationwide and publish the evaluation results. Strengthen the protection and improvement of the quality of cultivated land, carry out farmland remediation, soil fertility improvement, comprehensive management of degraded cultivated land, etc., effectively improve the comprehensive production capacity of cultivated land, especially permanent basic farmland.

5.2. Increase Investment in Science and Technology to Further Improve Agricultural Infrastructure

Investment is the foundation, and technology is the guarantee. To ensure food security, we must take the promotion of scientific and technological innovation in food production as the starting point and establish a sustainable agricultural investment mechanism; focus on the development of new varieties and new technologies, and actively develop economical agriculture; take the promotion of agricultural science and technology transformation as the foothold. Promote the promotion and application of resource-saving and environment-friendly technical equipment. At the same time, in the transformation of basic farmland and comprehensive development and construction of agriculture, the construction of farmland water conservancy facilities focusing on improving the implementation of agricultural foundations will further improve the production conditions of planting industry, increase the effective irrigated area of cultivated land, consolidate the basic guarantee of planting industry development, and improve food The comprehensive production capacity and the ability to resist disasters.

5.3. Create Value-Added Space for Grain Production and Fully Mobilize the Enthusiasm for Grain Production

To ensure the benefits of grain production, on the basis of strengthening scientific and technological investment and national policy guarantees, we must further accelerate the progress of rural arable land transfer, vigorously promote moderate rural land scale management, optimize grain production methods, improve grain production efficiency, and focus on Develop modern agriculture to promote the operation of grain brands, vigorously develop intensive production, further lengthen the grain production chain, create value-added space for grain production, make grain planting industry an engine industry for economic growth, and let grain farmers become the leading role in rural revitalization, Fundamentally improve the labor productivity and economic benefits of the grain industry, and fully mobilize the enthusiasm and initiative of cultivated land operators to plant grain.

5.4. Innovating the Development Mode of Agricultural Production and Improving the Multiple Cropping Index of Cultivated Land

The multiple cropping index, as an index to measure the degree of intensive use of cultivated land resources, reflects the basic situation of cultivated land resource utilization. The potential for multiple cropping is the natural reason for the change in the multiple cropping index. In the production of the planting industry, through the matching of agricultural machinery and agronomic technology, labor-saving, labor-saving, high-yield and high-efficiency unification are realized; new varieties, new technologies, new materials, and new equipment are widely adopted and applied to promote the optimization of planting models and technology integration; focus on efficient use of resources and The simultaneous development of ecological and environmental protection, further cultivation of fertility, control of soil erosion, and comprehensive improvement of the quality of cultivated land can guarantee the potential of the multiple cropping index, increase the multiple cropping index, stabilize crop planting area, ease the contradiction between man and land, ensure the sustainable development of the grain industry, and further improve the cultivated land Utilization efficiency.

5.5. Cultivating Soil Fertility to Ensure Ecological Security of Cultivated Land

Soil is the foundation and foundation of ecological security. Promoting the development of soil fertility cultivation industry, protecting and improving the quality of cultivated land is an essential way to promote the construction of ecological civilization, maintain national ecological security and achieve green development. Therefore, it is necessary to apply appropriate amounts of chemical fertilizers and pesticides to reduce the non-point source pollution of the land; comprehensively increase the amount of organic fertilizer used in crop production, and continuously increase the content of organic matter in cultivated land. At the same time, soil fertilization requires evaluation of the soil grade, clarifying the content of various substances in the soil, adapting to local conditions, strengthening soil quality testing, fertilizing the soil symptomatically, applying biological fertilizers in a targeted manner, and maintaining the balance of trace elements in cultivated land; Strengthen the return of large straw to the field to promote the activity of soil enzymes; strengthen the measures for ecological restoration of cultivated land, and establish an ecological security input guarantee mechanism Fundamentally improve land quality and promote ecological security of cultivated land.

5.6. Strengthen Propaganda and Education, Advocate Conservation Style

Diligence and frugality are the virtues of the Chinese nation. However, after solving food and clothing, the nationwide food waste is shocking. The research report of the Chinese Academy of Sciences shows that the food wasted in the country can be consumed by 200 million people. At the same time, a large amount of food is imported every year. Therefore, on the basis of grasping grain production, we must pay more attention to grain conservation and resolutely suppress grain waste. Through strengthening the publicity and education of saving food, establish a good social fashion that advocates frugality, At achieve "every grain should be sent to the granary" in grain harvesting; Make sure that "never leave a grain of rice in the cutlery" when eating; At achieve "there are no idle fields in the world" In the grain production; At achieve "Treasure the grain and don't waste it" In terms of grain consumption. Saving food is not only conducive to reducing the pressure on the balance between supply and demand for food, but also conducive to maintaining and guaranteeing food security.

6. Conclusion

Food security is a major issue worldwide, and it is also a worldwide thorny problem. It is necessary to firmly adhere to the bottom line of food security and ensure that the bottom line

of food security remains unshakable. Not only to meet the country's daily demand for food, but also to continuously strengthen food security guarantee capabilities in strategic reserves and market regulation. Further "Hide the grain in the Earth" to ensure the sustainable development of cultivated land; "Hiding food from the people" to build a multi-level grain reserve system; "Hide the grain in the technology" improves the overall technical capabilities of grain production and processing, and realizes the efficient use of resources and optimal allocation.

References

- [1] P.Pinstrup-Andersen.Food Security:Defini-tion and Measurement[J].Food Security,2009,Vol.1,Issue 1.
- [2] Hua Shuchun, Zhong Yu. Grain Supply Side Reform and Guarantee of Grain Security[J]. Rural Economy, 2019(12): 20-25.
- [3] Mark Nord,Margret Andrews,Steven Carl-son.Household Food Security in the UnitedStates [R]. 2008, Economic Research ReportNumber83,2009.
- [4] The Research Group of the Macroeconomic Research Institute of the State Planning Commission. Research on the relationship between ensuring food security and increasing farmers' income [J]. Economic Research Reference, 2002 (92): 2-48.
- [5] Rome Declaration on World Food Security [J]. World Agriculture, 1997(02): 3-4.
- [6] J.S.I.Ingram,P.J.Gregory,M.Brklacich.Cli-mate Change and Food Security[J].PhiosophicalTransaction of the Royal Society B-Biological Sci-ences,2005,Vol.360,No.1463.
- [7] Kang Xia. The evolution of our government's grain reserve system in the 70 years of New China [J]. China's Grain Economy, 2019(10): 32-35.