Thoughts on Promoting Effective Docking and Maintaining **Reasonable Price Fluctuation in Agricultural Products Production and Marketing**

Fantao Kong¹, Haipeng Yu¹, Jing Zhang¹, Hongyu Zhang¹ and Jifang Liu^{1*}

¹Agricultural Information Institute, Chinese Academy of Agricultural Sciences/Key Laboratory of Agricultural Big Data, Ministry of Agriculture and Rural Affairs, Beijing, 100081, China

*Corresponding author's e-mail: liujifang@caas.cn

Abstract. Ensuring the balance between supply and demand of agricultural products and keeping the basic price of agricultural products are the preconditions of reducing market fluctuation. According to the situation of production and supply of agricultural products and price fluctuation of agricultural products market in Inner Mongolia and Xing'an League, this paper condenses the primal problems existing in the agricultural products market in Inner Mongolia, studies the causes of these problems, makes overall plans for the structural reform of the supply side of agricultural products at present and in the future, in an effort to put forward reasonable countermeasures and suggestions for realizing effective docking of production and marketing of agricultural products and reasonable price fluctuation

1. Introduction

At present, the market prices of some agricultural products, such as hogs and garlic, have fallen dramatically, resulting in serious imbalance between supply and demand [1-2]. The price fluctuation of agricultural products is a double-edged sword, one of which is related to the interests of producers, concerning farmers' income increase; the other ties consumers' interests, concerning people's livelihood. The CPC Party Central Committee and the State Council attach great importance to the balance of supply and demand of agricultural products, the docking of production and marketing, price fluctuation and other issues, and make strategic deployment and specific requirements from both supply side and demand side. Recently, General Secretary Xi Jinping instructed that "pragmatic and effective" measures should be taken to "strengthen the docking of agricultural products in povertystricken areas". Premier Li Keqiang instructed that "measures should be put forward" to "prevent excessive fluctuations in prices of agricultural products". From June 3 to 5, the Department of Market and Economic Information of the Ministry of Agriculture and Rural Affairs of P.R. China sent a research team to conduct field research in Xing'an League of Inner Mongolia Autonomous Region. The research team went deeply into 4 Banner/ counties of agricultural product suppliers as Jalaid Banner, Ulanhot City, Horqin Right Front Banner and Tuquan County, heard reports of Xing'an League, and respectively held 3 symposiums, exchanged views with over 120 people, including 26 major farmers (cooperatives or breeding enterprises), 9 processing enterprises, 4 circulation enterprises and 5 e-commerce enterprises, and some related comrades, experts and technicians from agricultural and animal husbandry authorities at the level of Banner (county) and League. Situation report is as follows: Xing'an League is located at the southern foot of Da Hinggan Mountains in the

Content from this work may be used under the terms of the Creative Commons Attribution 3.0 licence. Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI. Published under licence by IOP Publishing Ltd 1

IOP Publishing

eastern part of Inner Mongolia, and is a transitional zone from forest to grassland, buried hills and hills. And it is the gold belt of national corn, cold rice and beef cattle breeding, which belongs to the typical agro-pastoral ecotone. And its national economy is dominated by agriculture and animal husbandry. The total land area is 60,000 sq. km, with household registration population 1.639 million, and 3 Banners, 2 cities and 1 county under jurisdiction. Compared with other League/cities in the Inner Mongolia Autonomous Region, Xing'an League has similarities and differences.

1.1Production Situation of Agriculture and Animal Husbandry in Inner Mongolia

In 2017, the crop planting area of the Inner Mongolia Autonomous Region farming species was 7.983 million hectares, an increase of 0.8% over the same period last year, among which, the sown area of grain crops was 5.758 million hectares, down 0.5%; the sown area of cash crops was 2.225 million hectares, up 4.1%. Total grain output reached 27.684 million tons, down 0.4% compared to the same period last year. In 2017, the livestock stockpile was 126.148 million, down by 7.2%, the total meat production was 2.676 million tons, up by 3.4%, the milk production was 6.93 million tons, down by 5.6%, and the egg production was 532,000 tons, down by 8.3%.

In 2017, the vegetable planting area of Inner Mongolia Autonomous Region was 4.5 million mu, of which 1.5 million mu was protected vegetable, and the output was 13.646 million tons, down 9.2% from the same period last year. The dominant varieties were more than 20 varieties such as pepper, tomato and Chinese cabbage, etc. The coverage rate of improved varieties reached 93%, and 65 intensive seedling centers. There were 34 certified green food melon and vegetable production enterprises with 146 products and 74,000 tons of output; 82 certified pollution-free food production products with 352 products and 162,000 tons of output; 23 certified geographic identification products with 2.9 million tons of output. There were 26 vegetable circulation enterprises above Designated Size, 98 processing enterprises, driving 448,000 farming households. Inner Mongolia has become an important non-seasonal and pollution-free vegetable supply base for Beijing, Tianjin, Hebei, the 3 eastern provinces and the Yangtze River Delta, etc. It is the largest dehydrated vegetable production base, the second largest processed tomato production base and the largest red dried pepper production base in county areas.

In 2017, the planting area of potato in Inner Mongolia Autonomous Region was 9.24 million mu with output 13.22 million tons of fresh potatoes. Ulan Chabu is the largest potato producing area in the autonomous region, and also the largest prefecture-level city in the whole country. The planting area is 3.91 million mu, accounting for 42% of the total Region. The output of fresh potatoes is 4.04 million tons, accounting for 31% of the total Region. Ulan Chabu now has 25 processing enterprises over designated size with a capacity of 170,000 tons of starch, 27,500 tons of pure powder, 50,000 tons of French fries and 1.3 million tons of convertible fresh potatoes. The cellar storage capacity of the whole city is 2.3 million tons.

1.2Production Situation of Agriculture and Animal Husbandry in Xing'an League

There are 18.95 million mu of arable land in the whole League, with 765,180 hectares of grain crops planted in 2017, and total grain output of 4.513 million tons. Dominated by field crops, corn, rice, soybeans, wheat, potatoes, miscellaneous grains, beans and sugar are abundant. Vegetables are mainly facilities, but the overall development is relatively lagging behind. Melons, fruits and vegetables are mainly imported and supplemented by local production. The planting area is about 70,000 mu, with annual output around 150,000 tons. In 2018, the soybean planting area in the whole League is 1.47 million mu, or even over 1.6 million mu. Its output is estimated to be 250,000-270,000 tons, more than double the planting area of 800,000-900,000 mu in previous years. There may be unsalable or unsatisfactory sale situation. Animal husbandry is mainly dominated with steppe mutton sheep, beef cattle and live hogs. In 2017, the annual stock of livestock was 11.4 million (animals).

The total number of Enterprises above Designated Size has reached 129, with an annual output value of more than 8 billion Yuan. The total number of agricultural and livestock products processing enterprises in the League has reached 118, with sales revenue of 7.8 billion Yuan, added value of



IOP Publishing

2.292 billion Yuan, total profit of 745 million Yuan and tax payment of 180 million Yuan. There are 3 leading enterprises in agricultural and animal husbandry industrialization at the national level, 31 leading enterprises in agricultural and animal husbandry industrialization at the Autonomous Region level and 65 key leading enterprises in processing above the League and above level. There have been up to 117 certified enterprises of "pollution-free agricultural products, green food, organic agricultural products, geographical indications of agricultural products", with 268 products, with an area of 2,036,600 mu and 8 registered products with geographical indications. The raw material base area of green food standardization in the whole League has reached 7.4 million mu.

1.3Fluctuations in Market Prices of Agricultural Products

From November 2017 to the end of April 2018, the average price of corn in Xing'an League was 0.66-0.67 Yuan per half kg. After the Spring Festival, the highest price of corn with good quality was 0.87-0.88 Yuan per half kg, and below the third grade was 0.5-0.6 Yuan per half kg. The average price of paddy rice was 1.45-1.52 Yuan/half-kg, the highest price was 1.80 Yuan/half-kg and the lowest price was 1.35 Yuan/half-kg. The average price of soybean was 1.78 Yuan/half-kg, the highest price was 2.0 Yuan/half-kg and the lowest price was 1.60 Yuan/half-kg. In mid-November 2017, one piglet was 350-400 Yuan in Xing'an League; 7-7.5 Yuan per half-kg of growing-and-fattening hog, down 1-2 Yuan per half-kg from the same period last year; after the Spring Festival, the price of live hogs continued to fall, and the price of piglets dropped sharply, only 200 odd Yuan for one; the lowest cost of fattening pigs was 4.5 Yuan per half-kg. At present, prices have shown signs of rising, fattening hogs are 5 Yuan / half-kg.

Mutton has fluctuated in the past 2 years, especially when Mongolian mutton is to be purchased for 10 Yuan per half-kg. Mutton from Shanghai China International Import Expo may also enter China inland in large quantities, and mutton prices will be affected.

In the early stage of potato harvest in 2017, the price of fresh potatoes, mainly Kexin No. 1 in Ulanchabu, was 0.45 Yuan/half-kg, 0.50 Yuan/half-kg for good quality, and about 0.70 Yuan/half-kg for processing special potatoes, such as Shapoti, which declined steadily from the same period last year. Since the large-scale cellar entry of potatoes, the price of potatoes has continued to be depressed. At the end of March 2018, the price of potatoes dropped to a low level. A large number of commercial potatoes stored in cellars had to be sold to starch factories at the price of 0.15-0.20 Yuan/half-kg. Over the same period, the price of potato in the country has been at the bottom for nearly 5 years.

2. Main Problems Existed and Causes Analysis

Under the condition of market economy, the price of agricultural products fluctuates with the change of supply and demand, which is the manifestation that the price mechanism is playing, and a normal phenomenon. However, the huge fluctuation and high-frequency fluctuation of the prices of some agricultural products have not only harmed the economic interests of producers and consumers, but also wasted limited ecological resources. Generally speaking, there are main problems in the agricultural product market as follows.

2.1Market Information Asymmetry, Production and Marketing Docking are not Smooth

Information asymmetry is the inherent attribute of commodity economy, and it is also the root cause of the current agricultural products falling into a circle of short supply and unsalable sales. First, authoritative information dissemination is few, which cannot effectively guide the production of farmers. "What tree is planted in spring" is an eternal topic, lacking of authoritative information release and effective information guidance. What farmers grow, how much they grow, what they raise and how much they raise, are often "following their feelings". Moreover, they are vulnerable to the influence of false market information and speculative information. Production decisions often blindly follow the wind, and it is very difficult for them to achieve "selling what expensive in Autumn." [3]. For example, in 2016, due to the market of green storage corn was good and the income per ton was close to 200 Yuan, then in 2017, Benkang Agricultural Machinery Cooperative, Ergetu, Horqin Right



IOP Publishing

Wing Front Banner, expanded the planting area of green storage corn, with the output reaching 120,000 tons, but only 1,000 tons have been sold, which is seriously unsalable and the price has fallen. Secondly, the sales channels of agricultural products are not smooth, and the efficiency of production and market docking is relatively low. The circulation of agricultural products in Xing'an League is manifested by the disconnection between small production and large market, and the repeated alternation between buying and selling difficulties. The distribution channel structure of agricultural products shows the asymmetry of "small ends with large middle". The small scale of farmers and retail terminals and the complicated middle sales links cause the agricultural products to fall into the difficult position of unsalable sale. In recent years, with the price rise of edible sugar, the purchase price of sugar beet has risen sharply. In 2018, the planting area of sugar beet in Xing'an League is expected to reach 245,800 mu. However, the survey found that the income of local sugar beet growers is not optimistic. Heng Chenggang, head of Hamu Guleng Vegetable Specialized Cooperative in Hulistai Park, Ulanhot City, said: "When farmers sell beets, they can only sell beets through intermediaries, and cannot directly connect with enterprises. And the service fees of intermediaries are too high, and the difference they earn is much higher than farmers' income." Thirdly, unmarketable selling occurs quite often, and inspiration is very thought-provoking. In Xing'an League in 2016, about 300 Yuan for a lamb, 2 local chickens for a lamb, which is directly related to brand, poor information, Market Research and judgment; Xing'an League potatoes are more or less abandoned every year, and Xing'an League potato cultivation potential is 5 million mu, from Alshan City to the industrial belt of Horqin Right Wing Middle Banner, currently only 200,000 Mu cultivated. The main reason is that every year fresh potato is planted, with centralized sales, broken sales chain, and no enough potato cellars to be used storage, resulting in poor development of the industry. Over a decade ago, Horqin's right-wing Front Banner developed the onion + order industry. In the autumn of that year, the order enterprises fled away, and export to Russia was rejected, farmer had to abandon harvest

2.2The Structure of Agricultural Products is Single and the Industrial Chain is Incomplete

The competition of modern agriculture has changed from competition among products to competition among industrial chains. Xing'an League is facing problems such as unreasonable layout and incomplete industrial chain. First, it is urgent to adjust the planting structure. Agricultural planting structure in Xing'an League is single, mainly dominated by field crops, and the development of vegetable industry is relatively backward. Corn is one of the main food crops in Xing'an League, and its sown area and total output rank the first among all the food crops in the League. Corn in Xing'an League is mainly exported, which is greatly affected by the decline in market prices. The purchase price of corn is low and unstable, and farmers are reluctant to sell. Secondly, industrial chain needs to be extended. The level of standardization, scale and intensiveness of agricultural production in Xing'an League is low. It has not yet formed a complete industrial chain of production, transportation, processing and marketing, especially in the weak ability of processing and transformation of agricultural products. In 2017, the total grain output of Xing'an League was 4.513 million tons, of which maize output was 3.615 million tons, accounting for 80% of the total grain output, but the processing conversion rate was only 15-20%. The added value of the products needs to be improved urgently. Since there are no large corn processing enterprises in Xing'an League, corn can only be sold to the neighboring Leagues/cities, which often leads to a price reduction of 0.1-1.2 Yuan per half-kg.

2.3Agricultural Brand Building is Lagging Behind, and Product Quality Needs Improving

Xing'an League has obvious regional advantages, with abundant agricultural and animal husbandry resources, and is located in the best cattle belt and corn golden planting belt. However, there is a big gap between Xing'an League's agricultural and animal products sales and other leagues/cities. "Good things cannot sell at a good price", which fails to fully transform the advantages of Xing'an League's unique green organic products into economic advantages. The reasons are mainly reflected in 2 aspects: First, the popularity of agricultural and livestock products is relatively low. In recent years, according to the principle of "government promotion, market dominance, enterprise main body and



multi-party participation", Xing'an League has made some achievements in promoting brand building. The Hamu Guleng Vegetable Specialized Cooperative in Hulistai Park of Ulanhot City has greatly increased the sales revenue of agricultural products by registering the "Hulistai" brand. For example, when the price of eggplants transported from Baicheng, Jilin Province, fell to 1.5 Yuan/kg, the price of "Hulistai" eggplants remained at 3.5-4 Yuan/kg. However, most of the high quality farm and animal products are still low in popularity; it is difficult to achieve high quality and high price. Secondly, the quality of some agricultural products needs improving. On the afternoon of June 3rd, the Research Group went to Mengjia Cereals and Oils Industry Group, Inner Mongolia to hold a symposium. Mengjia Group is a key leading enterprise of agricultural industrialization at the national level, and also the largest oil processing enterprise in Inner Mongolia. However, the head of the Group pointed out that the current Xing'an League region soybean planting scale was small, the standardized production level was low, the quality generally cannot meet processing requirements, the average protein content was 35%-38%, usually processed into food soybean protein content should be higher than 38%; oil yield was 16%, 2%-3% lower than imported soybean.

2.4Financial demand is difficult to meet, and agricultural insurance needs to be improved

Accelerating rural financial innovation and improving agricultural insurance system are important means to promote rural revitalization and smooth the price fluctuation of agricultural products. First, financing of rural industrial development is rather difficult. At different stages of economic development, the main body, level, scale and structure of rural financial demand performed differently. As far as the production and processing enterprises of agricultural and livestock products are concerned, due to the short production and processing cycle of agricultural and livestock products, the centralized demand for funds, and shortage of funds have always been the bottleneck that plagues their development. And, local banks lack interest driving, so they provide enterprises with single financial service only. Especially for small and medium-sized enterprises, the problem of difficult financing, loan, and guarantee are very prominent. As far as Xing'an League is concerned, the total amount of local bank lending is far less than the total amount of savings, which is reflected in the net outflow of finance. Secondly, the agricultural insurance system needs to be perfected. At present, the level of agricultural insurance protection in Xing'an League is obviously insufficient and its coverage is limited. On the one hand, Xing'an League has not yet established a sound mechanism for agricultural catastrophe risk diversification. The systematic risk of agricultural insurance caused by drought, floods, epidemics and other catastrophes is far greater than that of general insurance, but the dispersal or transfer of agricultural catastrophe risk is difficult to be reasonably solved. At present, the insurance price of natural disaster insurance in Xing'an League is 240 Yuan per greenhouse (400-450 m2), but the insurance compensation amount is only 60-70% of the crop cost price. On the other hand, Xing'an League has not yet incorporated fire into the scope of agricultural insurance. In recent years, great changes have taken place in China's agricultural planting mode. Greenhouse planting has played an increasingly important role and has gradually become an indispensable part of rural economic development, but there are also potential safety hazards. Water pumps and curtain rollers in greenhouses are extremely vulnerable to fire, especially for greenhouse farmers, once a fire occurs. The greenhouse is easy to catch fire and bring disaster to the surrounding areas, resulting in the loss of economic interests of many farmers.

2.5Agricultural Technology Extension is very Difficult and Professional Talent is relatively Scarce

Agricultural technology extension personnel are advocates, communicators and implementers of transformation of agricultural science and technology achievements. Over the years, China's grass-roots agricultural technicians have made great contributions to agricultural production. With the rapid development of agricultural technology, farmers need more timely technical guidance. However, Xing'an League is facing the reality that there is a lack of agricultural technical talents and there is no connection between them. College students are unwilling to return to work after graduation, and it is difficult to introduce and retain professional talents. The main reasons are: the rural economic and



5

social development speed is much slower than that of the city, and the competitiveness of talents is low; the rural infrastructure is backward, the working conditions and living environment are poor, and the willingness of talents to stay is low; the wages and living standards are low, and the attraction is not strong; the incentive mechanism is insufficient, the incentive force is insufficient, and the sense of belonging of talents is not strong. Lack of professionals leads to farmers cannot directly obtain professional technical guidance, and large-scale planting, intensive management, scientific management, mechanized production is the only way to revitalize the production of sugar beet in Xing'an League. At present, sugar beet growers in Xing'an League are unable to breed by themselves due to lack of professional and technical knowledge. They can only buy seedlings at high prices. In addition, specialized machinery is needed for sugar beet planting and harvesting, which leads to high production costs of farmers and makes it difficult for them to achieve effective income increase.

3. Countermeasures and Suggestions

In order to solve the problem of huge fluctuations in prices of agricultural products, realize the effective docking of supply and demand of agricultural products and accelerate the structural reform of the supply side of agricultural products, it is necessary to base ourselves on the current situation, work hard, lay stress on practicality and achieve quick results, but also focus on the future, lay the foundation and manage the long-term plan, for laying foundation on overall planning and take good measures of pragmatic and long-term mechanism.

3.1Based on the Current Situation, Solid Work, Heavy Practicality and Quick Results must be focused on

3.1.1Focusing on Marketing Promotion, Expanding Sales Channels. Xing'an League's agricultural and livestock products are mainly export oriented, facing great pressure on the market. In view of the current challenges facing mutton prices, the expected decline in soybean prices, the low price of potatoes hurting farmers, the decline in pork prices, and the instability of miscellaneous grain prices, it is necessary to concentrate our efforts on the marketing and promotion of existing agricultural products and put the measures into practice. First, clearing the main responsibilities of agricultural products market; Facing the marketing promotion of agricultural products, top-level design should be done well, overall arrangement should be made, specific responsibilities of local governments at all levels, agricultural authorities, agricultural production and operation enterprises, new subjects and farmers should be further clarified, offside, dislocation and omission should be prevented, and marketing synergies should be formed. Secondly, innovating ways of selling agricultural products; Changing the concept of "fragrant wine attracts customers though the bar is deep inside lanes", changing working ideas and methods, making full use of Internet thinking, giving full play to the role of Internet economy, and forming a marketing model of online and offline integration and penetration of physical network. Thirdly, taking measures to promote jointly; Comprehensively applying advertising, experience, cultural tourism, customization, trade fairs, WeChat, e-commerce, self-media, AI, VR and other marketing strategies and means, to create 3D spatial pattern of agricultural products sales, in a bid to publicize local agricultural and livestock products brand, enhance the visibility and reputation of products.

3.1.2Increasing publicity and enhancing product image. Xing'an League of Inner Mongolia Autonomous Region belongs to a typical agro-pastoral ecotone. Land development and utilization are relatively late, and most of the reclamation is after liberation (1949). Therefore, the development of pollution-free agricultural products, green food, organic food and geographical indication products has natural regional advantages and unique geographical advantages. At present, the quality of agricultural products in Xing'an League is very good, but it does not reflect the market law of " high price for good quality", and even appears the phenomenon of "inferior currency drives out good", so the publication must be strengthened [4]. Firstly, playing ads at CCTV, etc., focusing on the CCTV-7 and Inner



Mongolia TV, then, expanding to CCTV-2 or other provincial and municipal TV to carry out advertising and publicity of agriculture and animal husbandry + tourism, post and WeChat platforms, so as to make agricultural and livestock products in Xing'an League area out of Inner Mongolia and into the whole country. Secondly, Publicity at the agricultural fair and other platforms; Making full use of all kinds of agricultural fairs, expos, promotion fairs and other national platforms organized by the Ministry of Agriculture, Ministry of Commerce and other ministries and/or commissions to publicize, so that distributors and consumers can truly feel the good attributes of Xing'an League agricultural products. Thirdly, collective packaging publicity; Through the government or the third party to determine high-quality agricultural products in Xing'an League area, to select appropriate media, carry out collective packaging publicity, and form an explosive media effect.

3.1.3Strengthening brand cultivation and creating regional brand. Brand building is the lifeline and guarantee line for sustained and healthy development of agricultural products. Firstly, to expand and strengthen the work of agricultural products of "pollution-free agricultural products, green food, organic agricultural products, geographical indications of agricultural products" [5]. On the basis of continuing to promote and continue to do a good job in the certification of "3 products", the registration of 5 geographical indications products will be strived to complete as soon as possible, including "Xing'an League mutton", "Xing'an League beef", "Xing'an League millet", "Xing'an League mungbean" and "Xing'an League potato", and actively establish the regional industrial base of superior agricultural products in Xing'an League-- Mutton, mung beans, Stevia rebaudiana, beet, horse industry and national and Inner Mongolian superior industrial zones, to promote big green development of agriculture and animal husbandry. Secondly, focusing on supporting brand building; In the 16th China International Agricultural Trade Fair rice brand forum, Home Flavor - spokesperson, cooperative forum WeChat live broadcasting, Gold Prize product evaluation and other aspects to give special support to Xing'an League, make it on the stage of the fair activities, give the right to speak brand publicity. Thirdly, Speeding up the construction of regional public brand; In view of the problems of high quality agricultural products in Xing'an League, such as a wide range of high-quality agricultural products, not strong brands, leading enterprises are small and scattered and so on, efforts should be made to develop "Internet + agriculture and animal husbandry" E- Commerce (there are prairie e- purchases in Jalaid Banner, Tasting Flavor of Tuquan poverty-lift, 5-6 e- commerce in Horqin Right Wing Middle Banner, enterprise e- businesses – Mengjia, etc.. In order to start a microbusiness, it is necessary to strengthen the construction of regional public brands and build a synergistic effect of brand building.

3.2To focus on the future, plan from the long, lay the foundation, and managing the future

3.2.1To readjust the industrial structure and optimize the supply of products. In the long run, in order to fundamentally solve the problems of unsalable sale of agricultural products, and poor production and marketing, adjusting the structure, changing the way and optimizing the supply-side reform must be relied on, so that the supply-side and demand-side can achieve benign interaction, mutual promotion and dynamic matching. Firstly, adjusting planting structure; In the Xing'an League region locating at the Sickle Bay, it is necessary to optimize the proportion of ternary cropping structure of grain crops, cash crops and feed crops so as to prevent the odd circle of what is increased, what is more, what is reduced and what is less. Secondly, adjusting the breeding structure; In accordance with the 3R principles, deciding seeds by considering taking care the soil and coordination of farming and animal husbandry, the green development path of plant products structure; the proportion of high-end agricultural and livestock products, vigorously promote the certification of "pollution-free agricultural products, green food, organic agricultural products, geographical indications of agricultural products", expand and strengthen regional public brands will be increased, and the radiation driving capacity of famous brand products will also be increased.



3.2.2To increase policy support and foster market players. The natural conditions for the development of agricultural production in Xing'an League region are very favorable, but as a deep poverty-stricken area, financial support is urgently needed. Firstly, to further improve agricultural machinery subsidies. To adapt to the rapid transformation of agricultural restructuring, such as change from corn planting to soybean planting, the corresponding agricultural machinery and equipment need to be quickly purchased and subsidized [6]. Secondly, to improve financial and insurance system; it is necessary to increase the financial loan discounts and agricultural insurance subsidies, expand agricultural insurance coverage, and enhance the ability of market participants to resist economic, market and natural risks. Thirdly, appropriate policies should be given. In view of the actual situation in poverty-stricken areas, ethnic minority areas and frontier areas, special policies in the fields of finance, insurance, financial transfer payments and agricultural products reserve can be given due consideration [7].

3.2.3Building agricultural big data, improving monitoring and early warning. Adhering to the concept of building agriculture with data, developing agriculture with data and managing agriculture with data, focusing on the whole elements, whole process and system of agriculture, rural areas and farmers, mainly including all factors of production such as land, capital, science and technology, and all dynamic processes of production, circulation and consumption before, during and after production, and all ecosystems, such as plants, animals, microorganisms or human beings, nature and thinking, start from the information flow of information acquisition, information processing and information services, make the information flow reflect material flow, talent flow and capital flow, construct agricultural big data, and realize the intelligent service of information via data exploration and intelligent analysis. Through real-time dynamic monitoring of the supply and demand situation of agricultural products market, comprehensive use of big data technology, improve the analysis and prediction model, achieve early prediction and early warning [8], and prevent large fluctuations in agricultural prices, so as to nip the disaster in the bud.

4. Conclusion

This paper summarized and analysed the problems and reasons of imbalance, disharmony and mismatch between the supply side and the demand side of agricultural products in detail, then put forward countermeasures and suggestions on promoting effective docking, reasonable price fluctuation and benign interaction between supply and demand of agricultural products.

Acknowledgments

This research was funded by the National Natural Science Foundation of China (71573263) and the National Natural Science Foundation of China (71703159). *Corresponding author: Jifang Liu (liujifang@caas.cn).

References

- [1] Ding J., Wu J., Kong F. (2018) Fluctuation regularity and short-term prediction of garlic price, Guizhou Agricultural Sciences, 3: 153-157.
- [2] Yang H., Shen C., Wu J., etc. (2018) Transmission mechanism of pork price in Beijing and its prospect, Agricultural Outlook, 2018, 14(03): 22-29.
- [3] Li J., Wang J., Zhou Z., etc. (2013) Research on the Docking Mode and Mechanism Innovation of Production and Marketing of Agricultural Products, Issues in Agricultural Economy, 11: 31-35+110.
- [4] Guo Y. (2017) Brand Establishment has Become a "New Grasp" for Tackling Poverty --- Based on the Investigation of Brand Establishment of Agricultural Products in Xing'an League, Inner Mongolia, Newsletter about Work in Rural Areas, 17: 50-53.
- [5] Zhang K., Wang X. (2009) Analysis of Brand Building of Agricultural Products in China, Issues in Agricultural Economy, 02: 22-24.



- [6] Liu J., Kong F., Wu J., etc. (2017) Discussion on development of "Internet plus" modern agriculture, Guizhou Agricultural Sciences, 3: 167-170.
- [7] Li C., Song C. (2016) Price Fluctuation and Regulation Policy of Vegetable and Fruit Products, Issues in Agricultural Economy, 02: 17-24+110.
- [8] Kong F., Shen C., Wu J. (2016) village. Exploration and Thinking of Vegetable Price Regulation Mode in Shanghai, Price: Theory & Practice, 10: 90-93.



Reproduced with permission of copyright owner. Further reproduction prohibited without permission.

