Research on the Vegetable Trade Current Situation and Its Trade Competitiveness in China

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Abstract: This paper analyzed the Current situation and status of China in the world vegetable trade, measured and analyzed main export varieties of vegetables trade competitiveness in China by using international market share(IMS) and trade competitiveness index(TCI). The conclusion is that: China's vegetable export scale expands gradually, frozen vegetables、 dehydrated vegetables、 and dried vegetables have significant comparative advantages and hold high stability in the international trade. the world economic recovery will provides the export of China's vegetable products with opportunities.

Keywords: Competitiveness; Varieties; Vegetable trade; The market share

1 Introduction

Vegetable industry is an important part of agriculture, the development of vegetable industry in China have made great strides with the deepening of reform and opening up and accelerated industrialisation and urbanisation, vegetable planting area and output have formed into certain scale. Vegetable planting area is19.63958 million hectares in China in 2011 , accounting for 12.11% of total sown area of agricultural

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products; produced 679 million tonnes of vegetables with ￥1.26 trillion production value , accounting for 30 %of the total output value of agriculture. Overtaking proportion of grain output value for the first time, Vegetables has become the top agricultural products in China for the first time in 2011. At the same time, vegetables is China's export varieties with traditional comparative advantage among all the exported agriculture products as well, currently, China is the world's largest exporter of vegetables. The foreign trade scale of vegetable industry expands unceasingly since China's entry into WTO, China's vegetable exports have risen from 3.17 million tonnes to 7.72 million tonnes during 2001-2011, up 2.45 times, the average annual growth rate is 9.41%; Exports value, rising from $1.753 billion to $9.351 billion from 2001 to 2011, increased by 5.33 times, the average annual growth rate is19.15%. Export expansion speed higher than that of imports significantly.

An increasing number of the external environment uncertainty brings new difficulties and challenges

to The development of vegetable trade in China with the continuous expansion of China's vegetable foreign trade scale, How to position the Chinese vegetable industry's position in international trade, How to making full use of the comparative advantages in China's agriculture[8], How to adjust the vegetable trade strategy in China duly to keep up with the trend of the vegetable trade patterns change, which will be of great significance to consolidate the vegetables exports great-power status and reinforce vegetable export international competitiveness in China.

2 Literature Review

There are lots of literatures research on China’s vegetable trade, such as the potential impact of China’s agricultural sector on world trade(Fuller,2001;Wu,2003;Huang ,2003)[9]-[11] ,which can be summed up in two aspects by making generalization and summary of existing research methods and ideas ,On the one hand, some scholars carried out the research by using the empirical analysis and normative analysis, Qi Zhang , Ming-yang Zhang (2013)adopted empirical analysis on the influence factors of Chinese vegetables export trade from the perspective of bilateral technical trade measures with trade gravity model ,pointed out that importer of per capita GDP, trade distance, importing countries domestic standards are important factors that affect Chinese vegetables export trade;[1]Da-xue Kan(2013) estimates the international market forces of China's vegetable industry by

using the marginal cost model, results show that the international market power in China's vegetable industry appeared to descend after joining the WTO;[2]Yuan-yuan Hou,Li-li Wang(2011) built international competitiveness evaluation index system and used cluster analysis to compare the international competitiveness of 14 vegetable varieties and eight different kinds of vegetables in China, draw a conclusion that fresh vegetables, dehydrated vegetables have strong competitiveness in short term;[3]On the other hand, other scholars discussed China's vegetable trade issues from the following aspects such as Industrial chain, regional comparison and dynamic analysis and so on, Yong Tang,Jun Huang,Yue-yun Li(2006) measured the comparative advantage of China's vegetable production level by using the method of resource cost, pointed out that China's vegetable has a strong potential competitive advantage;[4]Hua Lin,Kai Wang(2010) analyzes Chinese vegetables export competitiveness against South Korea by using the revealed comparative advantage and export permeability index from regional comparative perspective, Results showed that the overall Chinese vegetables in Korea have absolute competitive advantage;[5]Feng-jie Pan,Yue-ying Mu(2011) draw conclusions that increasing trends of growing vegetables export quantity and amount, significant trend of diversification of vegetables export destination through analysis the changes in China's vegetable export trade from the perspective of dynamic.[6]

Synthesize existing literatures, the research on China's vegetable trade condition and trade competitiveness have carried out extensively. however, less research has been done on the competitiveness of the main vegetable varieties in China from global perspective, which remains to be improved. This paper will make further research and analysis on it. This article altogether is divided into five parts, besides the introduction and literature review, the third part analysis China’s vegetable current trade status, the fourth part calculated and analysis the trade competitiveness of main vegetable varieties ; The fifth part is conclusions and policy recommendations.

3 China’s vegetable trade current situation

The major characteristics of Chinese vegetables in foreign trade is export scale is far greater than imports(see Figure 1), the trade scale expanding year by year(see Table 1), trade surplus continues to rise steadily.

Looking from the trade growth process, vegetable imports volume basically remain at around 100000 tonnes during 2001-2007, exports volume keep increasing at

10% of the growth, trade surplus growth rate is fairly constant in the same slope as well. It is obvious to see impact of global financial crisis that outbreak in 2008 to Chinese vegetables in foreign trade, the growth rate of vegetable exports volume is only 0.32% in 2008, jumped to an all-time lowest record; vegetable trade surplus experienced negative growth for the first time with growth rate -1.31%;at the same time, vegetable imports volume is essential to maintain the original level. however, vegetables export trade began to gradually recover in China in 2009 as the economic stimulus policy Issued and implemented which promote the global economic recovery, exports volume and trade surplus year-on-year growth are1.92% and 20.65 respectively; increasing trend has shown in China's vegetable export trade in 2010, amplification of exports volume and trade surplus hit a record high, 190000 tonnes and 2.995 billion dollars respectively, year-on-year growth of 2.99%, 61.48%. Vegetable import was still keeping a steady growth in the year 2011, vegetable imports volume, exports volume and trade surplus rose by 4.55 million tonnes, 67000 tonnes and 7.814 billion dollars separately over the previous year.

Table1 import-export volume and import-export value in China during the year 2001-2011

Unit:10000 tonnes,100 million dollars

year	export volume	export value	import volume	import value
2001	317	17.52	10.02	3.25
2002	360	18.88	9.81	2.75
2003	432	21.99	9.51	1.75
2004	470	27.81	11.01	1.82
2005	520	33.02	10.5	1.65
2006	568	39.79	12.01	1.51
2007	622	42.16	10.5	1.25
2008	620	41.67	10.82	1.30
2009	636	49.96	9.01	1.25
2010	655	79.81	14.51	1.15
2011	772	93.51	16.51	1.11

Data sources: China trade foreign economic statistical yearbook and China customs database, calculated by the author

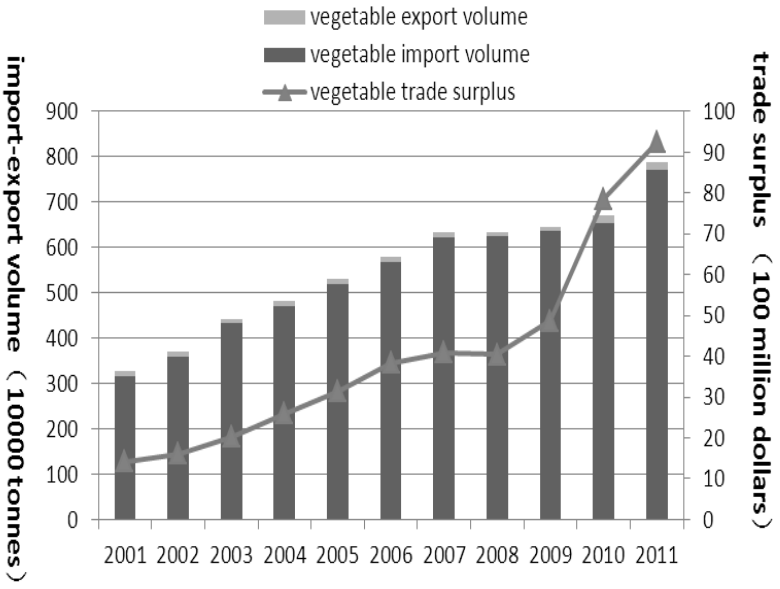

Figure 1 import-export volume and trade surplus in China during the year 2001-2011

Looking from major import-export market distribution of China's edible vegetable(see Table 2), The United States, the European Union, the association of southeast Asian nations (ASEAN) and Taiwan are major vegetable import destination, meanwhile, Japan, the European Union, America, ASEAN, Hong Kong and South Korea are a major vegetable output destination in China. China has claimed the position of No1 supplier of vegetable to Japan.[7]The association of southeast Asian nations (ASEAN) has become the top vegetable exporter of China in 2011, The edible vegetable bilateral trade value between China and ASEAN ascend to $1.457 billion, edible vegetable imports value and exports value accounted for 55.91% and 21.57%of edible vegetable total imports and exports value, trade vegetable varieties mainly include cassava, mung bean, red bean, etc; The USA is the second largest vegetable export country to China, vegetable imports value from the United States fell by 21.05% compared with the previous year, however, edible vegetable exports value to the United States increased by 13.84%, major trade varieties include dehydrated vegetables, frozen vegetables, pickled vegetables and so on. the European Union is the third largest vegetable export country to China, But the proportion of imports of edible vegetables from the European Union in China is only 6.5%, trade varieties mainly include dehydrated vegetables, frozen vegetables, etc. China import edible vegetables from Japan, Taiwan as well as export to Hong Kong, South Korea and

other places , Trade products including melons, beans, carrots, Onions, tomatoes, etc. As a whole, China's vegetable import-export market distributed in Asia, Europe and the Americas, however, trade is mainly concentrated in Asia

Table 2 China's edible vegetable major import-export market trade value in 2011

Unit:100 million dollars

importing market	import value	Growth Year-on-year	Exporting market	import value	Growth Year-on-year
ASEAN	0.52	10.23%	Japan	14.05	17.97%
USA	0.30	-21.05%	ASEAN	9.65	5.72%
EU	0.06	100.00%	EU	8.71	16.76%
Taiwan	0.04	100.00%	USA	5.84	13.84%
Japan	0.01	0.00%	HongKong	4.23	64.59%
HongKong	--	--	Korean	2.26	15.35

Data sources: China trade foreign economic statistical yearbook and FAO statistical database, calculated by the author

4 Vegetable trade competitiveness In China

Seen from table 3,compared with world average price, the export price of major export vegetable varieties in China Showed the following characteristics:1. Export price of dehydrated vegetables, frozen vegetables, fresh vegetables, salted vegetables are lower than the world average level year in year out, Vinegar soak vegetables export price is slightly higher than the world;2. Vegetable prices rise and fall trends are almost consistent with the world average price;3.Among all the export vegetable varieties in China, fresh vegetables export price are far lower than the world average for the long years, next is pickled vegetable, difference in price between world price and dehydrated vegetables ,frozen vegetables is not very remarkable.

Overall ,judging China's export vegetables varieties trade competitiveness from the export prices, we may know that vegetable industry hold a significant export competitiveness on price, Among them, fresh vegetables have the most striking export competitiveness, followed by pickled vegetables, dehydrated vegetables, frozen vegetables, the vinegar soak vegetables export competitiveness is relatively weak.

Table3 varieties of vegetables export price and world export price in China during the year 2006-2010

year	Dehydrated vegetables		Frozen vegetables		Fresh vegetables		Vinegar soak vegetables		Pickled vegetables	
	China	World	China	World	China	World	China	World	China	World
2010	2.82	2.88	1.03	1.08	0.41	1.04	1.66	1.07	1.04	1.45
2009	2.03	2.51	0.92	1.11	0.33	0.89	1.44	1.05	0.96	1.50
2008	2.03	2.56	0.93	1.16	0.29	0.88	1.45	1.12	0.96	1.50
2007	2.24	2.50	0.86	1.05	0.25	0.92	1.23	0.99	0.96	1.38
2006	2.39	2.52	0.88	0.95	0.32	0.86	1.20	0.89	0.89	1.22

Data sources: FAO statistical database, calculated by the author

By analyzing the international market share changes of China's export vegetable varieties Frozen vegetables, dehydrated vegetables, fresh vegetables, vinegar soak vegetables pickled vegetables and dried vegetables(see Table 4),we can know that a majority of the vegetables varieties have high market share in international market; looking from the changes in proportion, the international market share of frozen vegetables always keep at 17%, holding long-term stability; Dehydrated vegetable international market share gradually upgraded as time goes on, showing strong international trade competitiveness; Fresh vegetable international market share fluctuated in a tight range, Keeping in 1% amplitude fluctuation on average; Vinegar soak vegetable international market share showing a trend of rising year by year, which reach the highest level in 2010, acting the potential of increasing trade competitive advantage; Pickled vegetable international market share remain above 14.34% throughout the year since 2001,which raised to 19% in the year 2010 for the first time, proving potential international trade competitiveness; Dried vegetable had the largest international market share among all the export vegetable varieties in China Maintaining above 65%, showing a rising trend, reflecting stable and strong trade competitiveness of the dried vegetable varieties in the international trade.

Table 4 International market share of export vegetable varieties in China during 2000-2010

year	frozen vegetable	dehydrated vegetables	fresh vegetables	Vinegar soak	pickled vegetable	dried vegetables

				vegetables		
2010	19.47%	51.47%	6.43%	5.11%	19.02%	66.65%
2009	16.28%	40.97%	5.75%	3.83%	16.22%	67.49%
2008	16.41%	41.03%	5.08%	2.14%	16.99%	68.63%
2007	17.29%	45.67%	4.77%	2.01%	19.83%	67.77%
2006	18.57%	47.83%	6.59%	2.42%	18.64%	69.34%
2005	16.86%	43.18%	6.69%	3.14%	18.18%	61.94%
2004	15.31%	38.15%	7.58%	3.11%	15.76%	57.05%
2003	13.95%	37.54%	9.79%	3.26%	14.34%	62.27%
2002	16.03%	39.53%	11.72%	2.26%	15.55%	62.08%
2001	19.45%	35.17%	10.43%	3.17%	15.59%	59.06%

Data sources: FAO statistical database, calculated by the author

From the perspective of international market share, the dried vegetables and dehydrated vegetables keep in 35% ~ 65% all the year round , frozen vegetables and pickled vegetables remain above 15% as well, illustrating China's these four types of exported vegetable varieties with strong export competitiveness. Looking at the vegetables trade competition index between China and its trade partners

In 2011(see Figure 5), the trade competition index of frozen vegetables, dehydrated vegetables, fresh vegetables of China against The association of southeast Asian nations (ASEAN) , EU, Japan South Korea, the United States and Australia are above 0.96, Indicates that China’s frozen vegetables, dehydrated vegetables, fresh vegetables in the international market occupies a very strong competitive advantage; Vinegar soak vegetables showing significant trade competitiveness in China- Japan, China-South Korea trade, holding strong competitiveness in China-USA, China-Australia trade, proving general trade competitiveness with trade competition index 0.48 and 0.5 separately among China-ASEAN, China-EU trade; Pickled vegetables trade competition index is above 0.96 in China-EU, China-Japan, China- South Korea trade, meanwhile, the value come to -0.10,0.26,0.71 separately in the trade relationship China-ASEAN, China-USA, China- Australia, the result show that China’s Pickled vegetables has significant competitive advantage in China and the European Union, Japan, South Korea trade, hold strong competitive advantage comparing with Australia, take general competitiveness against the United States, stay in the weak competitive position in the trade with ASEAN.

Table 5 Trade competitiveness between China and its major vegetable trade partners in 2011

Varieties	USEAN	EU	Japan	Korean	USA	Australia
frozen	0.99	1.00	1.00	1.00	0.98	1.00
dehydrated	1.00	0.99	1.00	0.96	0.99	1.00
Fresh	1.00	1.00	1.00	1.00	0.97	1.00
Vinegar soak	0.51	0.48	1.00	1.00	0.87	0.97
Pickled	-0.10	0.96	0.99	0.96	0.26	0.71

Data sources: FAO statistical database, calculated by the author

5 Conclusion and Suggestion

（1）Main conclusions

1. China' s vegetable foreign trade market is distributed in Asia, Europe, America ,Oceania and Africa, seeing trade value and trade density, Chinese vegetables import and export market mainly concentrated in Asia, including Japan, South Korea north Korea and the ASEAN countries are China's major vegetables trade partners, The United States, the European Union is China's second and third largest vegetables trade partners respectively. The vegetable trade and cooperation between China and the world will further deepen as the world economic recovery and the rise of emerging economies.

2. seen the trends of China’s vegetables import and export structure and trade surplus, the vegetable export scale and imports scale will continue to expand, besides, the trend of exports expanded faster than the growth rate of imports is very clear, the status of vegetable trade surplus will thus be sustained in the years to come.

3. From the result of comparison between China’s export price and world export price, we know that the export price of dehydrated vegetables, frozen vegetables, fresh vegetables, salted vegetables are lower than the average level of the world, showing significant price advantage. Under the condition of regardless of non-price factor, production costs and export prices are the deciding factor for China’s vegetables industry possess strong trade competitiveness.

4. From the result of international market share comparison, the international market share of China’s dried vegetables, dehydrated vegetables keep more than 40% all the year round, the proportion of pickled vegetables, frozen vegetables in the

global total vegetables trade value remain above 15% for a long time within recent 10 years, to some extent, reflecting China's trade competitiveness of different vegetable varieties have differentiation.

5. The trade competitiveness index tell us that china’s frozen vegetables, dehydrated vegetables, fresh vegetables has a significant competitive advantage in the vegetables trade with the association of southeast Asian nations (ASEAN) ,Japan, South Korea, the United States and Australia, Vinegar soak vegetables showed strong trade competitiveness in China-Japan, China-South Korean, China-Australia trade, Pickled vegetables stay in a significant trade competitive advantage position in trading with EU, Japan, South Korean.

（2） Policy Suggestions

Based on the above analysis, this paper puts forward the following Suggestions

1. Optimize the structure of export vegetable varieties, improving the ability of exported vegetable varieties to earn foreign exchange . take the market as the guidance, In order to realize the resource allocation efficiency maximization as the goal, according to the comparative advantage of vegetables varieties such as resources endowment, policy orientation, system environment, market structure, etc,
adjusting and optimizing the structure of export vegetable varieties scientifically in accordance with different target market needs, to improve the overall capacity to earn foreign exchange of vegetables industry in China.

2. To enhance investment in agricultural scientific research, improve the sci-tech contents in vegetables, put both quantity and quality of vegetables into consideration. Taking science and technology as support, implementing Agricultural science and technology strategy , Increase investment in agricultural scientific research and agricultural technology talents cultivation, cultivating new high-yielding high-quality vegetable varieties, upgrading vegetable industry technology content and comprehensive competitiveness comprehensively, improving vegetable quality and benefits synchronous, to further consolidate and strengthen the strong trade competitive position of vegetables industry in China through the occupation of agricultural high-tech commanding heights to break the pattern of resources and environment constraints in vegetable production.

3. Build a vegetable production standardization system, improve the vegetable quality and safety coefficient. aiming at improving the vegetables varieties quality and safety, to build the national vegetable production standardization system by making goods regulations, technical standards to push the vegetable industry develop

with the direction of standardization, industrialization, large-scale, to eliminate the vegetable quality and safety problems gradually, to circumvent trade risk such as green barrier, technical trade barrier and so on, to enhance the capability in shielding against risks and international export competitiveness of vegetable industry in China.

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