

Research on the Current Situation, Problems and Countermeasures of Lychee Export in Guangdong Province under the RCEP Framework

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ABSTRACT

Lychee, known as a premium fruit from Lingnan region both domestically and internationally, enjoys the reputation of "King of Fruits" and has been praised since ancient times for its sweet and delicious taste as well as rich nutritional value. In recent years, with the continuous development of economic globalization and the official implementation of the Regional Comprehensive Economic Partnership (RCEP) agreement, lychee export trade has gradually emerged as an important force in promoting agricultural economic growth and enhancing international image for Guangdong Province. This paper analyzes the current situation and existing problems of lychee export in Guangdong Province. Through the analysis of relevant materials, literature and export data, the author found that Guangdong's lychee export faces problems such as single product structure, relatively concentrated export markets, insufficient international influence of lychee brands, and encountering green trade barriers. To address these issues, this paper proposes countermeasures including optimizing and adjusting lychee varieties and export structure, building the "Guangdong Lychee" brand, improving lychee export quality, and developing lychee deep processing industry, in order to promote lychee export from Guangdong Province and increase the income of lychee growers.

KEYWORDS

Lychee; Export; Guangdong province; Green trade barriers

1 Introduction

Lychee is a unique fruit of Guangdong and the most representative premium fruit from the Lingnan region. Lychee cultivation has always occupied a traditional dominant position in Guangdong's agriculture. Guangdong has the largest lychee planting area in China, making it not only the most widely planted fruit in the province but also renowned for its distinctive varieties and regional advantages. In recent years, with the rapid development of China's economy, the official implementation of the Regional Comprehensive Economic Partnership (RCEP), and the execution of the rural revitalization strategy, the lychee cultivation has become the most distinctive and advantageous agricultural industry in Guangdong Province. As of the end of 2022, Guangdong's lychee exports accounted for 55.7% of the national total, exceeding 8,097 tons, with the export value reaching 59.4%, amounting to 170 million yuan. Given the importance of Guangdong's lychee exports for rural revitalization and increasing fruit farmers' income, it is of significant practical importance to explore how to increase the volume and value of lychee exports, enhance export competitiveness, promote the development of lychee processing, and thereby improve fruit farmers' income.

In recent years, domestic and international scholars have conducted considerable research on specialty fruit industry and exports in China or its various provinces^[1,5]. Sun Jie and Chen Xiaoming (2022), used the trade gravity model to analyze key factors affecting fruit exports and proposed a series of measures to promote fruit exports^[2]. Yuan Junjie and Chen Wen (2020), studied the basic situation of fruit exports in the Zhanjiang area, providing references for strengthening the fruit export^[3]. Mai Xinmin (2020), researched on the current export situation of the four major famous fruits in Guangdong Province^[4]. Scholars' research on the lychee industry and its exports primarily focuses on either the national perspective or the industry-specific angle^[7-8]. Chen Houbin, Su Zuanxian, and Yang Shengnan (2023), based on research from the National Lychee and Longan Industry Technology System, emphasized the need to improve lychee fruit quality and strengthen cold chain processing and marketing^[6]. Fu Linguang (2022), stated that lychee market competition is increasingly fierce, and the lychee industry in Maoming City has faced significant challenges^[9]. Pan Xinyi and Wu Zhengping (2023) analyzed the current development status of the characteristic lychee industry in Zengcheng District, Guangzhou City^[10]. Reviewing previous studies reveals that while there is considerable research on Guangdong's lychee industry, studies on Guangdong's lychee export trade are relatively scarce, indicating that this paper holds certain theoretical significance.

2 Analysis of the Current Situation of Lychee Exports in Guangdong Province

This paper analyzes the current situation of lychee export trade in Guangdong Province from the aspects of lychee

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yield, export volume, export value, export varieties, and destination countries.

2.1 Analysis of Lychee Production Areas and Yield in Guangdong Province

Guangdong Province is located in Southern China, belonging to a tropical monsoon climate with warm and humid conditions and abundant heat, making it suitable for lychee cultivation^[6]. The main lychee growing areas are concentrated in three regions: the Pearl River Delta, Western Guangdong, and Eastern Guangdong. Specifically, in the Pearl River Delta region, the area centered around Guangzhou and Dongguan has significant advantages for late-maturing lychees; while in Western Guangdong, Maoming and Zhanjiang serve as the main centers for early and mid-maturing lychees; in Eastern Guangdong, Jieyang and Shanwei primarily cultivate mid-to-late maturing lychees. According to statistics, in 2023, the province's lychee planting area reached 4.1 million mu, an increase of 0.77% compared to the previous year; while the total lychee production was 1.6 million tons, an increase of 9%. As shown in Table 1, the overall trend of lychee planting area in Guangdong Province from 2018 to 2023 was upward, with production gradually increasing from 2019 to 2021, slightly declining in 2022, but then rising again. During the peak lychee marketing period in 2023, prices remained stable: Heiye at 5.3 RMB/kg, Huaizhi at 6 RMB/kg, Feizixiao at 7.3 RMB/kg, Baitangying at 13.1 RMB/kg, Guiwei at 14.2 RMB/kg, and Nuomici at 18.6 RMB/kg. (See Table 2)

Table 1 Lychee Planting Area and Production in Guangdong Province, 2018-2023

Year	Lychee Planting Area (10,000 mu)	Total Lychee Production (10,000 tons)
2018	367.51	140.31
2019	373.05	109.22
2020	381.21	135.09
2021	393.98	151.62
2022	406.84	146.74
2023	410.00	160.00

Source: Guangdong Rural Statistical Yearbook.

Table 2 Average Farm-gate Prices of Lychee Varieties in Guangdong Province, 2023

Variety	Heiye	Huaizhi	Feizixiao	Baitangying	Guiwei	Nuomici
Price (RMB/kg)	5.3	6.0	7.3	13.1	14.2	18.6

Source: Department of Agriculture and Rural Affairs of Guangdong Province.

2.2 Analysis of Lychee Export Volume in Guangdong Province

From 2018 to 2023, Guangdong's lychee export volume generally showed an upward trend with fluctuations in some years. Export volume gradually increased from 2019 to 2021, experienced a slight decline in 2022, and then rose again in 2023, reaching 13.24 million kilograms, which is 3.8 times the 2019 level. (see Table 3)

Table 3 Lychee Export Volume in Guangdong Province, 2018-2023

Year	2018	2019	2020	2021	2022	2023
Export Quantity (million kg)	4.22	3.45	5.93	9.27	8.24	13.24

Data source: Compiled from Guangdong Customs statistics.

2.3 Analysis of Lychee Export Value in Guangdong Province

As shown in Table 4, Guangdong's lychee export value increased year by year from 2018 to 2021, experienced a slight decline in 2022, and then rose significantly again. The export value reached 34.68 million USD in 2023, more than 4 times the 2018 level. Especially in the past three years, Guangdong's lychee export value has shown significant growth. The trend of lychee export value in Guangdong Province shows a positive correlation with planting area and production volume.

Table 4 Lychee Export Value in Guangdong Province (2018-2023)

Year	2018	2019	2020	2021	2022	2023
Export Value (million USD)	8.58	11.41	16.73	28.00	26.46	34.68

Source: Compiled from Guangdong Customs statistics

2.4 Analysis of Lychee Export Varieties in Guangdong Province

Guangdong region is rich in lychee production, with a diverse variety of species including over twenty types such as

Feizixiao, Guiwei, Baila, Sanyuehong, Gualv, Heiye, Huaizhi, among which the five varieties of Baitangying, Heiye, Guiwei, Feizixiao, and Nuomici have the widest cultivation range. Due to different maturity times of varieties, their market availability times also differ. Feizixiao, Guiwei, and Nuomici are high-quality lychee varieties with high yields, therefore becoming the main export varieties of lychee in Guangdong Province.

2.5 Analysis of Lychee Export Destinations (Countries/Regions) in Guangdong Province

According to Table 5, the main export destinations for Guangdong lychees in 2023 were Hong Kong China, United States, Indonesia, Singapore, and Philippines, with export quantities accounting for 25.27%, 20.06%, 17.44%, 11.36%, and 8.56% of total exports respectively; export values accounted for 27.7%, 17.87%, 15.5%, and 14.97% of total export value respectively. The total value share to major markets reached 95.1%, indicating that Hong Kong China, North America, and Southeast Asia are the most important export regions for Guangdong lychees, while other countries and regions import very small quantities from Guangdong.

Table 5 Guangdong Province Lychee Export Destinations Situation (2023)

Export Country (Region)	Export Volume (Million kg)	Export Value (million USD)	Export Volume Share (%)	Export Value Share (%)
Hong Kong, China	3.34	9.61	25.27	27.70
United States	2.66	6.20	20.06	17.87
Indonesia	2.31	5.37	17.44	15.50
Singapore	1.50	5.19	11.36	14.97
Philippines	1.13	2.03	8.56	5.87
Canada	0.75	2.65	5.65	7.65
Malaysia	0.60	1.92	4.56	5.54
Other	0.94	1.70	7.08	4.91

Source: Compiled from Guangdong Customs statistics

3 Analysis of the Problems in Guangdong Province's Lychee Exports

Based on the above analysis of the problems in Guangdong's lychee exports, this paper proposes the following countermeasures and suggestions.

3.1 Unreasonable lychee export structure

The export category structure of Guangdong lychees is single, mainly exporting fresh lychees, followed by dried lychees and canned lychees (see Table 6). The deep processing and value-added development of lychees are lagging, with a short industrial chain. This leads to low export value-added in the lychee industry, low export volume of deep-processed lychee products, and significant pressure from internal competition in production areas when fresh fruits are concentrated on the market. Guangdong lychee export markets are concentrated, mainly sold to Southeast Asia, North America, and other countries and regions, with high dependence on traditional markets and relatively concentrated market risks. From the perspective of export quantities of different varieties of fresh lychees, the proportion of early, mid, and late-ripening lychees is unbalanced, with mid-ripening varieties dominating, while early and late-ripening varieties are relatively scarce. This leads to concentrated export times for lychee farmers, intense export competition, and reduced income for fruit growers.

Table 6 Export Product Status of Guangdong Lychee Industry in 2023

Export Products	Fresh Lychee	Dried Lychee	Canned Lychee
Export Quantity (kg)	12890210	6111	340818
Percentage (%)	97.38	0.05	2.57

Source: Compiled from Guangdong Customs statistics

3.2 Insufficient International Influence of Lychee Brands, Lagging Export Marketing

Brand is the core competitiveness of an enterprise and an important factor for products to enter the market and gain recognition. "Guangdong Lychee" has high domestic recognition, but in the international market, the brand image remains vague, mostly sold as "Chinese Lychee" or ordinary fruit, with weak bargaining power. Currently, due to the lack of leading lychee export enterprises and effective international marketing strategies, there are no unified standards for lychee export packaging design, product appearance, and quality. This results in overseas consumers having low recognition of Guangdong lychees, making it difficult to form stable high-end market recognition and consumption habits, leading to weak international influence of the Guangdong lychee brand.

3.3 Lychee Exports Encounter Green Trade Barriers

In recent years, with increasing international market competition pressure, some developed countries have implemented stringent green trade barrier measures. The EU and Japan have implemented a "positive list" system for lychees where "no standard means no entry". In 2024, the EU notified that a batch of fresh lychees exported from Guangdong was not up to standard, due to detection of fungicides without established limit. The US, Australia and others require lychees to come from registered orchards, with "system approach" - seasonal monitoring, cold or hot water treatment, packing facility quarantine, and accompanying phytosanitary certificates. Missing any results in rejection. Consequently, Guangdong's lychee exports to the US plummeted by 40% in 2023. Large supermarkets in the Netherlands and Germany require lychee suppliers to provide carbon footprint declarations and sustainable packaging proof. Therefore, Guangdong lychee exports face constantly escalating green barrier chains; if export enterprises lack understanding of or fail to comply with target country standards, exports are hampered, causing significant economic loss.

3.4 High Logistics and Cold Chain Costs for Lychee Exports

Fresh lychees have an extremely short shelf life and are prone to spoilage during transport, imposing extremely stringent requirements on timeliness and cold chain throughout the entire supply chain from picking to shelving, limiting export radius and sales time. Therefore, air transport is the mainstream transportation choice, but the cost is very high. Although sea freight costs are lower, they require higher standards for cold chain technology and time control, resulting in greater logistics risks. The higher logistics and cold chain costs are ultimately passed on to the final selling price, weakening the price competitiveness of Guangdong lychees in the international market.

4 Response strategies to promote lychee exports from Guangdong Province

4.1 Optimize the Structure of Lychee Export Varieties and Implement Differentiated Market Strategies

Guangdong Province should vigorously develop the cultivation of high-quality lychee varieties and transform low-quality varieties. For example, through top-grafting cultivation technology, low-quality varieties such as Huaizhi and Heiye can be replaced with high-quality varieties like Guiwei and Feizixiao, thereby achieving optimization and upgrading of the fresh lychee export variety structure.

With the implementation of the RCEP agreement and favorable conditions of the "Belt and Road" policy, lychee export enterprises can implement differentiated market strategies, increase exports to Southeast Asian markets, consolidate exports to local traditional markets and fresh platforms; for high-end markets such as Europe, America, Japan, and South Korea, introduce lychees into local high-end supermarkets and fruit specialty stores; and also explore and cultivate emerging markets like the Middle East through channels such as catering.

4.2 Build the "Guangdong Lychee" Brand and Increase Recognition Among Foreign Consumers

To gain a favorable position in international competition for Guangdong lychees, the Guangdong government should first create and promote the "Guangdong Lychee" provincial regional public brand, establish strict authorization standards, and ensure the quality and reputation of exported lychees. Second, Lychee growers can establish the Guangdong Lychee Industry Association. The Guangdong Lychee Industry Association should establish quality standards for "Guangdong Lychee" exports, including the size, appearance, sweetness, and packaging of fresh lychees, strengthen its uniqueness, highlight the brand's core advantages and characteristics, and enhance overseas consumers' recognition of Guangdong lychees. Third, the Guangdong government should encourage and help lychee export enterprises to participate in international agricultural product expos, utilize foreign social media and cross-border e-commerce platforms to strengthen promotion in overseas markets, shape the high-quality image of 'Guangdong Lychee' in the international market, and enhance the brand influence of Guangdong lychee globally.

4.3 Improve Lychee Quality and Actively Respond to Green Trade Barriers

To actively address green trade barriers, Guangdong customs should strengthen supervision of lychee export quality, strictly control pesticide residue testing, and ensure the quality of exported lychees. First, the Guangdong government should establish inspection standards and certification system construction for exported fruit products, strictly controlling pesticide residues in exported lychees; second, the Guangdong government can lead or promote the formulation of international standards for the lychee industry, striving for discourse power on key indicators such as pesticide residues, and can also establish an authoritative export fruit and vegetable quarantine information service platform to dynamically update technical regulations and quarantine standards of various countries, providing precise guidance for lychee export enterprises.

Lychee export enterprises should closely cooperate with lychee growers to establish registered lychee export planting

bases, implement 'Good Agricultural Practices (GAP)', control pesticide residues from the source, and ensure traceability of exported lychees. Lychee export enterprises should proactively understand the inspection standards for fruit imports in developed countries to reduce the risk of lychee exports encountering green trade barriers.

4.4 Build Lychee Industrial Parks to Promote the Production and Export of Deep-Processed Lychee Products

The Guangdong government can plan and construct modern lychee export industrial parks in major lychee production areas that integrate pre-cooling, sorting, processing, packaging, inspection and quarantine, and cold chain logistics, achieving agglomeration effects and standardized processing to improve the convenience of lychee industry exports.

Over 97% of lychee export products are fresh fruits. To diversify lychee industry export categories and extend the industrial chain, the government can establish special funds to support agricultural research institutions and lychee processing enterprises in jointly developing deep-processing technologies for lychees, creating high-value-added products such as canned lychees, lychee juice, dried lychees, lychee wine, and other deep-processed products to promote the export of deep-processed lychee products.

5 Conclusion

Guangdong Province accounts for the largest proportion of lychee cultivation area in China. In recent years, against the backdrop of RCEP, Guangdong's lychee total output, export volume, and export value have all shown an upward trend. Based on data analysis of Guangdong's lychee export status, the problems identified in Guangdong's lychee exports include: single export category structure dominated by fresh fruits with relatively low export volume of deep-processed products; single export market structure primarily focused on Southeast Asia and the United States; weak international influence of lychee brands and lagging international marketing; high logistics and cold chain costs for lychee exports; and encountering numerous foreign green trade barriers. The above issues have affected the growth of Guangdong's lychee export volume and value.

In response, this paper proposes countermeasures including optimizing lychee varieties and export structure; building a distinctive "Guangdong Lychee" brand; improving lychee export quality to address green trade barriers; establishing lychee industrial parks and developing lychee processing industry to promote deep-processed product exports, thereby facilitating sustainable and stable growth of Guangdong's lychee exports and enhancing its international competitiveness. Although this study has summarized the problems faced by Guangdong's lychee exports and proposed some countermeasures to promote exports, these conclusions mainly rely on customs export data analysis and Guangdong lychee export cases as references. Therefore, there are certain limitations in the analysis of lychee export issues, and the proposed strategies need further validation through data.

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