

# *Research on the Export Status of Flower Industry in Guangdong Province*

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**Abstract:** As one of the five major flower producing areas in China, Guangdong Province is one of the very important areas for flower export in China. With the increasingly fierce competition in the flower industry at homeland and abroad, considerable pressure has been placed on the export of flowers in Guangdong Province. Therefore, it is of great significance to explore the existing problems of flower export in Guangdong Province and find out the countermeasures to promote the sustainable development of flower export in Guangdong Province. In view of the existing problems, combined with the status quo and the successful experience of foreign flower industry development, from the three aspects of improving the quality of flower export products, improving international competitiveness, improving the logistics level of Guangdong flower export, and increasing the cultivation of Guangdong flower talents, in order to promote Guangdong flower industry. Related countermeasures and suggestions were put forward for export development.

## **1. Introduction**

Guangdong has a vast terrain, hot climate, heavy rainfall and frequent typhoons. The dry and wet seasons change significantly, and there are many natural climate disasters. Various factors have a great impact on the production capacity of flowers. At the same time, the scale of flower planting by farmers in Guangdong is small, and the planting area is relatively scattered, making it difficult for an organized flower planting industry to take shape. At the same time, due to weather and other factors, the off-season of flower sales came early, and a large number of farmers rushed to plant and sell at the same time, resulting in low product quality, a decline in overall sales prices, and a lack of market competitiveness. At the same time, the variety of flowers planted in Guangdong is single, there are few varieties with independent research property rights, and the lack of variety innovation has greatly affected the upgrading of Guangdong's flower industry. Although Guangdong flowers have a certain production scale and market share, from the perspective of the industry chain, there are problems of incoordination between production and variety breeding and supporting logistics. Or blind production, resulting in an imbalance between supply and demand. Consumers do not have sufficient understanding of the flower industry, resulting in the flower industry failing to form a brand effect among consumer groups. In addition, the state's support for Guangdong's flower

industry and the preferential policy are still insufficient. Therefore, through the analysis of the current situation of the flower industry in Guangdong Province, we can find out the existing problems and put forward relevant development strategies, which will contribute to the development of the flower industry in Guangdong Province. is of great significance.

## **2. Analysis on the Production Status of Flower Industry in Guangdong Province**

### **2.1. Production and Planting of Flowers in Guangdong Province)**

In terms of flower production and planting, Guangdong Province has excellent climatic conditions. Guangdong Province belongs to the subtropical monsoon climate and the East Asian monsoon region. From north to south, Guangdong Province is divided into mid-subtropical, south subtropical and tropical climates. It is one of the regions with the richest light, heat and water resources in China. With the rain and heat are at the same time, and the seasons are evergreen, which is very beneficial to the growth of flowers and the production and planting of ornamental plants and green seedlings. Therefore, the planting area of ornamental plants and green seedlings accounts for the largest proportion in Guangdong Province.

Guangdong is a large flower province in my country, with rich resources of flower plant varieties, and is one of the four major flower producing areas in the country. Among the more than 500 kinds of flowers that are commonly seen in the country and around the world, Guangdong Province accounts for 80% of all kinds of common flowers in the world and it is known as the "heaven of hundreds of flowers".[1]

### **2.2. Flower Planting Area and Flower Industry Output Value in Guangdong Province**

After more than 40 years of development, the flower industry in Guangdong Province has grown in scale and speed, and the planting area has expanded to a certain extent. In 2012, the planting area of flowers in Guangdong Province was 1.0815 million acres, and in 2022 it reached 1.233 million acres. However, it is worthy to be pointed out that the number has only increased with a growth rate of 14% in last 10 years and the growth rate was slow compared to some other competitors. The flower planting area even had a negative growth of 14.8% in 2015. Fortunately, the flower planting area returned to normal increase rate in 2016 and covered the losses in 2015.

### **2.3. Research Status of Flower Industry in Guangdong Province**

In recent years, Guangdong Province has always been committed to the research, demonstration and promotion of new flower varieties and new technology innovations, and its scientific research and innovation capabilities have been increasing. It is a modern comprehensive entity with relatively large scale, comparable technical strength, and advanced equipment, integrating flower scientific research and development, technical services, production and trade, popular science research and professional training. Guangzhou Flower Research Centre is one of the main players in flower science and technology innovation in Guangzhou and even Guangdong. In recent years, it has obtained more than 30 scientific research results such as scientific and technological progress awards above the municipal level, and the conversion rate of technical achievements has reached more than 90%. Guangzhou Flower Research Centre breeds and promotes high-quality flowers every year. There are more than 35 million seedlings for tissue culture and more than 2.5 million pots of high-grade potted flowers. The centre can supply more than 35 million high-quality flower seedlings of more than 300 famous, high-quality, new and extra-high-end flower varieties to meet the needs of the domestic market; Guangzhou The Guangzhou High-quality Flower Demonstration

Base (Conghua) under the Flower Research Centre is located in the Conghua Flower Industrial Park and is one of the main implementation subjects. The base covers an area of 350 mu. Up to now, Guangzhou Flower Research Centre has cultivated 58 new flower varieties approved by Guangdong Crop Variety Approval Committee.[2]

## **2.4. Guangdong Flower Export Amount**

From 2017 to 2022, the amount of flower exports in Guangdong Province exceeded 50 million US dollars every year, but the annual amount fluctuated greatly. Among them, the export volume in 2021 is the largest, reaching 110.2394 million US dollars; in the first half of 2020, the unprecedented impact of the new crown epidemic has affected flower exports, logistics has been hindered and market demand has declined. In 2019, the export value did not drop significantly, which was US\$77.8383 million; in 2021, when the foreign epidemic situation was severe, China's epidemic prevention and control was very effective, and the foreign flower market was in short supply. China's flower export volume reached the highest in the past five years, reaching 500 million. In terms of export volume, the flower export volume of Guangdong Province is also the highest in the past five years, with an export volume of about 110 million US dollars.

## **3. Analysis on the Export of Flower Industry in Guangdong Province**

### **3.1. Export Quality of Guangdong Flower Products Is Not High**

#### **3.1.1. Fragmentation of Flower Production and Operation, Insufficient Development of Industrial Production Capacity**

Many flower planting areas in Guangdong Province are scattered and fragmented individual farmers. Most of the individual farmers are farmers with low professional qualifications. The production facilities are not high-tech, the geographical distribution is scattered, the planting area is small, the planting varieties are messy, and the management is difficult. Extensive and lack of professional skills and training. These factors lead to low output per unit area of flowers and insufficient production capacity of the flower industry. There are not many large multinational enterprises in Guangdong flower enterprises, mainly small and medium-sized enterprises, which is not conducive to the construction of Guangdong flower brands and the improvement of international recognition, and affects the development of Guangdong flower exports.[3]

#### **3.1.2. Insufficient Investment in Flower Research**

The development of flower export is inseparable from the support of science and technology. The quality of flower products is closely related to the new technology or skills of flower production, picking, preservation and transportation. Guangdong currently has the problem of outdated planting technology and equipment. The flower industry has low technological content. Most of it is greenhouse and open-air planting. There are very few high-end flower products in Guangdong, and there are not many mid-end products. The overall flower quality is not high. Only the Guangzhou Flower Research Center, Guangdong Famous Flower Key Scientific Research Base, and Guangdong Academy of Agricultural Sciences Environmental Horticulture Research Institute participate in flower research. The investment in scientific research on flowers is insufficient. In facility cultivation technology, pest control technology, flower medicine fertilizer. There is insufficient research on matrix technology, post-harvest treatment, cold chain logistics technology and other aspects. In 2018, there were more than 4,000 types of flower varieties in Guangdong Province, of which there were only more than 120 new flower varieties with independent

intellectual property rights, and only more than 20 invention patents were authorized. These data clearly prove that Guangdong Province has independent production of flowers. Innovation ability needs to be improved.

### **3.1.3. Incomplete Flower Export Quality Inspection Management System**

The export of flower products in Guangdong is restricted by the trade barriers of exporting countries. European countries have extremely strict and high-standard import quarantine requirements. The United States is also one of the three major flower consumption markets in the world. The flower export market has great potential, but it also faces. The various requirements of phytosanitary inspection are limited. Flower products exported to the United States must not only meet the phytosanitary inspection and quarantine standards stipulated by the World Trade Organization, but also meet the phytosanitary inspection and quarantine requirements of the United States. On the one hand, there is indeed a large gap in the quality of flower products in our province compared with exporting countries, which cannot meet the requirements; on the other hand, exporting countries may maliciously set strict quarantine standards for the purpose of protecting their own flower markets. Our province's testing and inspection equipment technology is relatively backward. The environmental management system and quality management system of flower production have certain defects in the certification, and the testing ability is not strong. Some bacteria-carrying products cannot be accurately tested, and the quality of flowers cannot be guaranteed. The products cannot meet the relevant foreign standards, so the export flower products are detected by the other party as not meeting the plant inspection and quarantine requirements of the exporting country. As a result of this situation, the entire batch of products can only be destroyed locally or returned by the other party. No matter what kind of result, the loss to producers or exporters is huge, which seriously affects the export of flower products in Guangdong.[4]

## **3.2. Guangdong Flower Export Logistics System Is Not Perfect**

### **3.2.1. Lack of Complete Flower Cold Chain Logistics**

Flowers are fresh agricultural products and have high requirements for cold chain logistics. Traditional logistics and transportation will cause temperature imbalance and affect the quality of flowers. Guangdong has not established an efficient whole-process cold chain logistics system in the post-harvest transportation of flowers, and the overall logistics and transportation quality of flowers is low. Among the exported flowers, 80% of the flowers have no cold storage conditions, and sorting, packaging and delivery are carried out in places with unstable temperatures, resulting in 35% loss of the exported flowers. The high loss rate greatly increases the cost, and the high cost leads to high prices, which seriously weakens the advantages of Guangdong's flower export and reduces the export competitiveness of Guangdong's flower.[5]

### **3.2.2. Export Flower Packaging Standard Is Too Low**

Flower products are relatively fragile, and packaging materials need to have moisturizing, compressive, and heat-insulating functions to protect flower products in circulation and facilitate transportation and sales of flower products. At present, flowers in Guangzhou are stored and transported in cardboard boxes with a size of 50\*50cm. The cartons are easily damaged and cannot protect the flowers inside. In addition to problems such as transportation overload, it is easy to frostbite or rot during transportation, which greatly affects the quality of flowers for sale. Moreover, a container with a single specification and model cannot meet the needs of all flowers for logistics boxes. Flowers of different specifications require logistics boxes of different specifications. This

has led some flower farmers to use extrusion packaging and stacked flowers in boxes in order to save costs. , and then after a long period of export transportation, the quality of flowers has been greatly damaged.

### **3.3. Shortage of Professionals in the Flower Industry**

The flower industry requires a huge number of personnel, such as front-line flower farmers, scientific research and innovation professionals, and flower sales professionals. Therefore, the shortage of talents is one of the important factors restricting the development of flower industry in Guangdong Province. Most of the practitioners in Guangzhou's flower industry are over 40 years old, and most of them are women, facing the problem of "aging" employees, and the proportion of professional and technical personnel is still low, only about 10,000 people, which has led to the flower industry in Guangzhou. Lack of specialization and standardization.[6]

In many large-scale flower production bases in Guangdong Province, most of the flowers produced are low-end products, and mid-to-high-end flowers account for a small proportion. Therefore, Guangdong's flower industry cannot meet the current consumption demand dominated by high-end flowers in the international market. In addition, most of the flower farmers in Guangdong imitate planting based on past planting experience or listening to other people's successful examples. They lack professional training and professional skills for flowers, which leads to the development of the flower industry and cannot further improve the quality.

## **4. Suggestions on Countermeasures for Flower Export in Guangdong Province**

### **4.1. Focus on Improving the Quality of Flower Export Products and Improving International Competitiveness**

#### **4.1.1. Improve the Level of Specialization and Division of Labor, Modernize Production and Planting Management**

The production mode based on individual farmers has been unable to adapt to the development of Guangdong's flower industry. In view of the small and scattered scale of flower production and operation in Guangdong, we can increase the number of modern flower industrial parks across the province, and promote the model of "land rent + salary income + dividends" to jointly cooperate with enterprises and growers for win-win results; The original scattered and fragmented production mode of farmers has gradually changed into a production mode of centralized procurement. At the same time, modern agricultural technology and big data are used to guide production in a targeted manner, and scientific methods are used to fertilize and irrigate to ensure the output and quality of flower products; A set of industrial management system is formed through various methods such as technical improvement, fertilizer and water management, disease and insect pest control, and nursery stock production specifications.[7]

#### **4.1.2. Break Down the Technical Trade Barriers of Export Destination Countries and Improve the Testing Level**

With the expansion of the flower export scale in Guangdong Province, the Flower Import Congress will take various restrictive measures to hinder the import of flowers. In order to ensure the sustainable development of Guangdong's flower export, the ability to deal with trade barriers of flower importing countries must be improved. First of all, improve the inspection and quarantine standards for export flowers, build a standardized export inspection system, improve the risk assessment system, improve the inspection level of diseases and insect pests and expand the



inspection scope. Secondly, in the face of foreign malicious trade barriers and restrictive measures, they should actively protect their own interests in a legal way, and should not sit still.

#### **4.1.3. Strengthen Policy Support and Improve Independent Innovation Capabilities**

The Guangdong provincial government should learn from the Dutch government to distribute production materials, market information and training to flower farmers. Banks involved in agriculture provide preferential loans to flower farmers and enterprises and support them to purchase advanced agricultural machinery and logistics equipment. At the same time, coordinate railways, airports and major airlines Support the flower industry, provide high energy subsidies and scientific research investment, vigorously support the independent research and development of enterprises, improve breeding technology, and develop more new varieties; and under the guidance of the government, set up special funds for new varieties of flowers to reward the research and development of new varieties; provide subsidies for growers to purchase self-owned new varieties of seedlings.[8]

### **4.2. Improve the Logistics Level of Guangdong Flower Export**

#### **4.2.1. Improve Flower Preservation Innovation Technology and Cold Chain Transportation Technology**

The perfect equipment of cold chain logistics is extremely important for perishable and perishable flowers, which directly affects the quality of flowers. Guangdong should attach great importance to the construction of flower cold chain logistics and make up for the shortcomings of flower cold chain logistics. Guangdong flower enterprises should learn from Yunnan enterprises, actively introduce foreign advanced flower preservation technology, optimize the freshness transportation and freshness processing of flowers, and improve the current freshness preservation time in flower logistics. In terms of flower packaging materials, improve the packaging standards, use heat-insulating, pressure-resistant, light and small materials, adapt to the transportation mode of cold chain logistics, and reduce flower loss. The entire cold chain is adopted in the transportation of flowers, and vertical containers are used for storage and transportation with water after harvest, so as to improve the mechanical and standardized operation of the cold storage.

#### **4.2.2. Using Internet of Things Technology to Monitor the Flower Logistics Process**

Guangdong flower enterprises should use modern Internet of Things technology to monitor the whole process of flower picking, packaging and transportation. Use temperature sensors to test the temperature and humidity of the environment in which flower products are transported, upgrade fresh-keeping refrigeration equipment, build a perfect fresh-keeping system, use the advantages of the Internet to make up for the lack of transportation monitoring, and comprehensively improve the quality and efficiency of flower logistics. In this way, the "vital signs" of flowers during transportation are monitored in real time, and the temperature difference of the transportation compartment is regularly recorded. Once a temperature change is found, timely responses can be made to avoid affecting the quality of flowers.[9]

#### **4.2.3. Develop Third-Party Logistics**

While building domestic and international sales and logistics networks for the flower industry, strengthen cooperation with third-party logistics companies, establish strategic partnerships, and build branch distribution services for end customers. By relying on specialized third-party logistics

companies, enterprises can subcontract flower logistics to professional logistics companies. Professional logistics companies can set up special cold storage for flowers, hire professionals to provide services from the beginning of flower harvesting, and even extend their services to auctions and export customs declarations, thereby saving more time and economic costs for enterprises. In product development and brand building.

#### **4.2.4. Establish Flower Freight Insurance Protection**

Insurance companies can launch "flower insurance" in a targeted manner to quantify insurance standard compensation for common losses in the flower circulation link and provide different claim settlement services. Flower transportation can use custom-designed special logistics packaging boxes, and link relevant insurance company resources to launch flower transportation insurance. If the flowers are damaged during transportation, the insurance company can compensate part of the loss, so as to reduce the loss and risk of flower farmers.

### **4.3. Strengthen the Training of Flower Talents**

#### **4.3.1. Enterprises Cooperate with Universities to Cultivate Flower Professionals**

Flower enterprises in Guangdong should strengthen the awareness of talent cultivation in the flower industry, actively cooperate with universities, fund, and select some employees to go to universities to learn professional knowledge and improve their comprehensive capabilities, or invite university professors to give academic lectures to enterprises and provide on-the-spot guidance to employees. School-enterprise joint training of flower professionals. At the same time, colleges and universities can connect to enterprise channels, establish talent training bases for flower export, realize school-enterprise information exchange, keep abreast of market trends, promote the synchronization of flower scientific research results and market demand, and use enterprises to practice internship activities for students to enhance their practical ability. In addition, flower-related majors should be actively developed to make sufficient preparations for the innovation and transformation of flower enterprises.[10]

#### **4.3.2. Strengthen Policy Support and Introduce Outstanding Talents from Outside the Province**

For the problem of insufficient talent training funds for small and medium-sized enterprises, the government can set up a talent training fund according to the actual situation. On the one hand, it will provide special subsidies to encourage enterprises to actively cultivate talents, and on the other hand, it will provide financial support for the establishment of practice bases in colleges and universities and comprehensive talent training in enterprises. Relevant policies promote school-enterprise cooperation, standardize cooperation methods and systems, and contribute to the cultivation of cross-border e-commerce talents for flowers in Guangdong, improving the quality and quantity of talents. At the same time, Guangdong can improve the talent introduction policy, increase subsidies and policy support, provide effective guidance, introduce more powerful policies and measures in the introduction of talents, build a more complete incentive mechanism, and attract outstanding talents in the flower industry from outside the province or internationally.

## **5. Conclusion**

According to the above research and data, the following conclusions can be drawn, the problems faced by the flower industry in Guangdong: First, the innovation of flower varieties is not enough.

The quality of flower products is not high; second, the flower circulation system is not perfect, and the export procedures are complicated; third, the industrial support policies are insufficient, the stamina of industrial development is insufficient, the professional level is low, and the quality of employees in the flower industry needs to be improved. In order to be able to solve the above problems, there are the following suggestions: first, attach importance to the cultivation of new varieties of high-end flowers, and develop varieties with Guangdong characteristics; second, improve the flower transportation and distribution system, and simplify export procedures; Flower production and export; Fourth, strengthen the management of human resources in the flower industry and implement a talent strategy. With the development of the flower industry in Guangdong in recent years, the Guangdong provincial government has paid more and more attention to the flower industry, providing policy and financial support, and the quality of life of the majority of farmers has been continuously improved. Under the background of the construction of the "One Belt and One Road", proposed the construction of ecological civilization, the construction of a beautiful China and the Guangdong-Hong Kong-Macao Greater Bay Area, it is the general trend to vigorously develop the flower industry in Guangdong, which creates opportunities and provides a huge demand. In recent years, the enthusiasm for flower tourism has continued to heat up, and new business forms such as travel experience and leisure sightseeing based on flower-themed parks and flower-characteristic towns have continued to develop, creating new consumption growth points. Coupled with the strong support of the Internet, the development of the flower industry in Guangdong Province will be further improved.

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