

INDUSTRY OVERVIEW

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OVERVIEW OF FRESH FOOD INDUSTRY IN CHINA

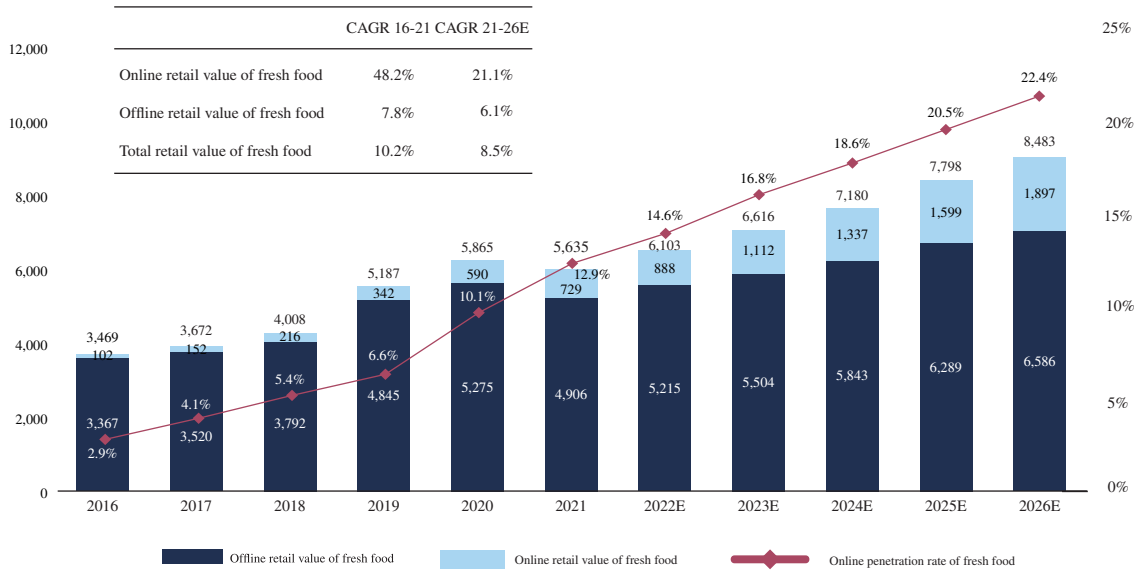
Fresh food refers to primary products that can be placed on store shelves without deep processing procedures, such as cooking and producing, and requires only necessary preliminary processing procedures, such as freshness preservation and simple treatment, which mainly includes fruits, vegetables, eggs, poultry, meat and aquatic products with high freshness level requirements. Fresh food industry in China has recorded a steady and rapid growth in recent years. With recent consumption upgrading and increased well-being awareness, fresh food has increasingly shown its significant role in domestic economy. China is currently at a critical period of consumption upgrading; on one hand, it has been experiencing an improved living standard, a faster pace of life and a vibrant import and export trade, and, on the other hand, an aging population and subhealth trends have led to an increased spending for health. People are seeking for better life and have increased their consumption demand on fresh products. According to Frost & Sullivan, the total retail sales value of fresh foods in China increased from RMB3,468.5 billion in 2016 to RMB5,635.3 billion in 2021, representing a CAGR of 10.2% and is forecasted to reach RMB8,483.0 billion at 2026, with a CAGR of 8.5% from 2021 onwards.

With multiple driving factors such as the improvement and extensive coverage of cold chain logistics infrastructure, the diversification of distribution methods, and the impact of COVID-19 pandemic on consumption habits since 2020, the online penetration rate of fresh food in China has increased rapidly, resulting in the rapid growth of the market scale. According to Frost & Sullivan, the online penetration rate of fresh food in China increased from 2.9% in 2016 to 12.9% in 2021, and the size of the online fresh food retail market increased from RMB101.9 billion in 2016 to RMB729.0 billion in 2021, with a CAGR of 48.2%. In the future, as more consumers gradually develop the habit of online shopping and the fresh food retail market pays more and more attention to online channels, the online penetration rate of fresh food will continue to increase. According to Frost & Sullivan, the online fresh retail penetration rate is expected to reach 22.4% in 2026, and the online fresh food retail market will reach RMB1,896.8 billion, with a CAGR of 21.1%.

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RETAIL SALES VALUE OF FRESH FOOD RETAIL MARKET IN CHINA

RMB billion



OVERVIEW OF FRUIT INDUSTRY IN CHINA

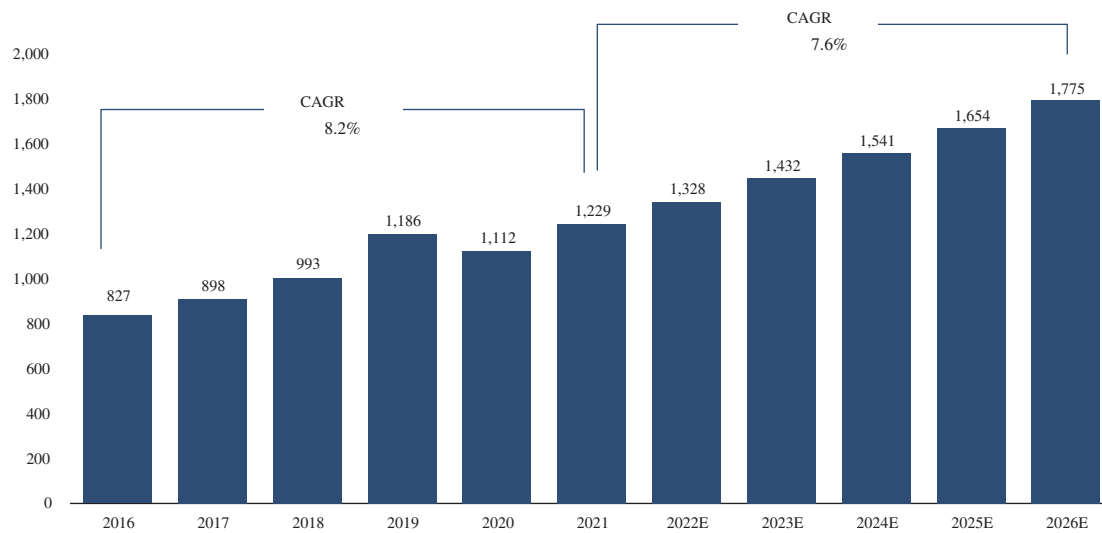
Scale of Fruit Retail Market

With the increase of consumption expenditure per capita and the upgrade of food and beverage consumption, consumers' demand for high-quality fruits is increasing day by day. The improvement of consumers' awareness of health also makes people pay more attention to food safety and food sources, and consumers are willing to pay a premium for high-quality and delicious fruits. Meanwhile, thanks to the development of the supply chain and the upgrade of cold chain warehousing and logistics technologies, the distribution efficiency has been improved, the fruit loss rates have been reduced, and consumers can enjoy fresh and high-quality fruits in time. In addition, with the rapid development of the Internet and e-commerce, fruit retail business models tend to be diversified, providing consumers with more convenient shopping experience and more choices. According to Frost & Sullivan, in terms of fruit retail sales value, the size of China's fruit retail market has increased from RMB827.3 billion in 2016 to RMB1,229.0 billion in 2021, with a CAGR of approximately 8.2%. Compared with other fresh food, fruits sales profit is relatively higher as fruit sales include multiple selling points, such as a broad variety of choices, rich nutrition for healthy diets, convenience for eating, bright and colorful appearance stimulating consumption desire, and compatibility with various consumption scenarios. Therefore, fruit retail market in the future is expected to witness more kinds of fruits and better shopping experience, and China's fruit retail market still has the potential for further growth. According to Frost & Sullivan, in terms of retail sales value, the scale of China's fruit retail market is expected to further increase to RMB1,775.2 billion in 2026, with an expected CAGR of 7.6% from 2021 to 2026.

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RETAIL SALES VALUE OF FRUIT RETAIL MARKET IN CHINA

RMB billion



Major Features of Fruits

Fruits are mainly non-standardized products, with high loss rate and short shelf life in nature. In terms of consumption characteristics, due to the rich variety and stable demand of daily fruits, fruits have a high purchase frequency and cover a wide distribution area, as well as have the features of planned and immediate consumption.

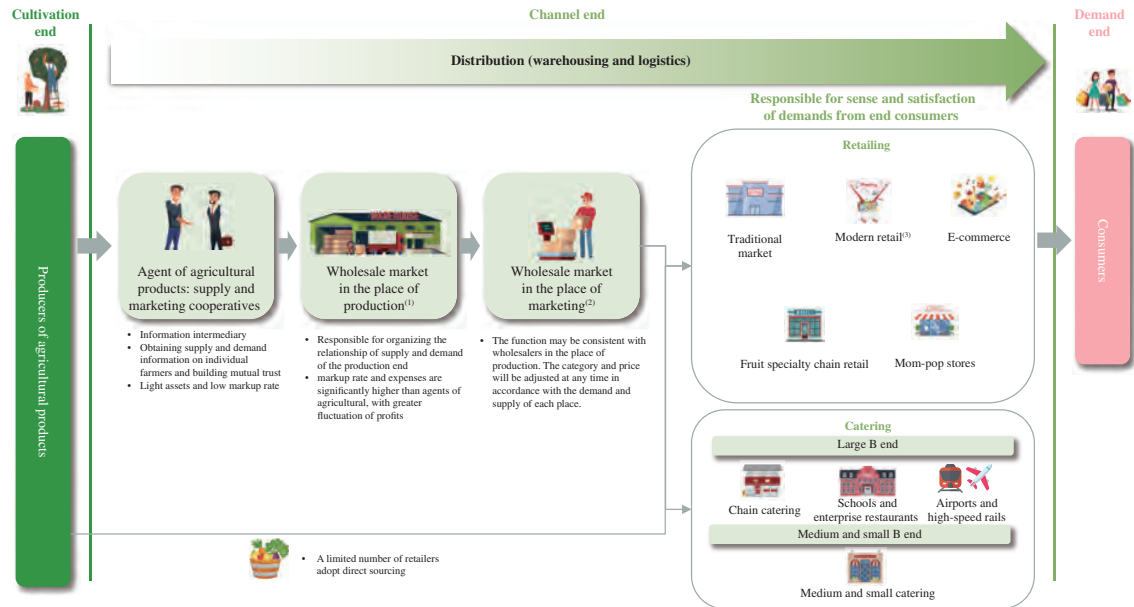
In particular, fruits are generally edible without processing or merely after preliminary processing, and retain natural and active substances to the largest extent. Certain fruits need to be stored under specific temperature and humidity, thus requiring higher storage and logistics standards. In terms of consumption, colorful fruits and their diverse scents, as well as store display stimulate consumers' willingness to purchase; meanwhile, consumers can touch or try such food in offline stores with the introduction of store sales staff based on their understanding of fruits, which highlights the value of face-to-face selling, thereby effectively increasing order value and purchase rate.

Fruit Value Chain in China

The fruit chain can be divided into cultivation, post-harvest processing, distribution (logistics and warehousing) and sales. Compared with developed countries, traditional fruit value chain in China is generally inefficient and has a higher loss rate resulting from multi-tier distribution. According to Frost & Sullivan, in general, the industry loss rate fluctuates between 35-45%, which, coupled with the costs in connection with multi-tier distribution, results in low profitability of the industry. Along with the development of warehousing and cold chain logistic technologies which enable the loss rate to gradually decrease, together with the development of large scale centralized purchases which reduce the procurement costs, it is expected that there remains a high growth potential for profitability in the future.

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In addition, the fragmentation in various phases of the upstream and downstream from cultivation to sales has caused information mismatches and low synergy and efficiency, and therefore, it is difficult for the majority of enterprises to achieve efficient value delivery to end consumers. As a result, few enterprises in the fruit industry in China are able to achieve in-depth engagement in multiple phases of the industry chain, especially the planting end. Enterprises need to have significant professional in-depth insights about fruits and procurement standards, as well as obtain technology advantages and process information from various aspects across the fruit value chain. According to Frost & Sullivan, currently, there are only a few leading fruit specialty retail enterprises in China, such as Pagoda, capable of establishing an ecosystem over the entire fruit industry chain.



Notes:

- (1) The main subject of orientation is producers. The wholesale market in the place of production acts as a channel for farmers and producers to sell agricultural products, receive and exchange market information regarding the supply and demand of agricultural products. The main function of wholesale market in the place of production is to collect agricultural products. That is, to collect the products produced by farmers timely and to form bulk commodities before shipping to large and medium-sized cities across the country. Agents and rural brokers are important players in the circulation process of agricultural products. Agents collect agricultural products from farmers and ship to the wholesale market in the place of production.
- (2) The main subject of orientation is residents. Wholesale market in the place of marketing is usually located in the suburban area of large and medium-sized cities. It ensures the daily consumption needs of urban residents by providing agricultural products. The agents of participation could be categorized to two kinds: sellers and buyers. Sellers could be agents from the place of origin on agricultural products or from the wholesale market in the place of production, direct-selling farmers from the suburban places of origin, importers of agricultural products, etc. Buyers include supermarket suppliers in the retail industry, retailers in the urban vegetable markets, group buyers and urban residents/consumers.
- (3) Including supermarkets, fresh food supermarkets and convenience stores.

In terms of cultivation, China’s agricultural sector is principally dominated by peasant farmers rather than specialized agricultural companies, with low arable land per capita, low concentration of planting, low level of specialization and mechanization in agricultural production, and lack of scientific cultivation techniques and post-harvest treatment techniques.

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These factors eventually lead to the low cultivation efficiency, unstable product quality, low level of branding, and difficulties in brand premium establishment. Furthermore, due to the lack of an integrated management and quality classification system for post-harvest processing treatments, the procurement standards for fruits vary, causing great differences in the quality and specifications of products in the market. On the contrary, the proficiency, standardization and mechanical automation in terms of planting in developed countries have stabilized the product quality and production yields, and established various prominent category brands, such as Zespri and Sunkist Growers.

In terms of distribution, fruits are often exposed to risks of high cost and high loss. In respect of logistics phase, the fruit industry in China involves several circulation phases and the profit margin in the industry is low. It is evidenced by multiple transshipment required for fruit products and low coverage of cold chain, coupled with high loss rate and layer-by-layer accumulation of logistics and labor cost. Currently, fruit retailers generally cooperate with third-party logistics companies or set up their own logistics to enable product circulation. Third-party logistics companies in China mainly are constituted by regional small- to medium-sized enterprises with uneven levels of transportation capacity, service and quality. In respect of the warehousing phase, the fruit industry in China mainly adopts two models, namely centralized warehousing and dispersed warehousing. The former makes use of main traffic lines, and is mainly located in major cities, with broad warehousing spaces and capabilities for sorting, packing and transshipment. This model is often adopted by self-operated e-commerce retailers and supermarkets. In addition, the centralized warehousing model can often complete preliminary processing in the warehouses, such as fruit classification, cleaning and ripening, to increase the edible value and economic benefit of products. Dispersed warehousing, on the other hand, is closer to consumers, requires higher upfront investment and holds concentrated commodity categories, but these warehouses can achieve shorter delivery time, which is often adopted by integrated online and offline retailers and franchised fresh food community stores. Different from China, due to the dispersed distribution of residential areas in Europe, the United States and other developed countries, centralized warehousing is the mainstream for the time being.

In respect of the retailing end, retailing channels of fruits in China mainly include traditional markets, modern retail (including supermarkets, fresh food supermarkets and convenience stores), e-commerce, and fruit specialty retail (including fruit specialty chain retail and mom-pop stores). A specific comparison between advantages and disadvantages of each retail channel is set out in the section headed "Major channels of fruit retail in China." Compared with others countries, the fruit retail industry in China is highlighted with the following characteristics: (1) the specialty level of fruit retailing is able to enrich consumption experience, and therefore, the fruit specialty chain stores with convenience and specialty have developed significantly; (2) fresh food channel brands under development have become the new emerging force of fruit retailing; (3) due to the popularization of intelligent terminals and e-commerce, as well as the rapid development of corresponding logistics industry, the growth rates of online retailing penetration rate and the home delivery rate of fruits in China are considerably higher as compared with foreign countries; (4) with the emergence of social commerce recently, there have been numerous emerging online retailing methods with a massive user traffic base, such as the social commerce ecosystem in reliance on the WeChat platform; and (5) because residential communities in cities of China are densely populated, fruits for daily consumption are even suitable for sales in stores close to communities, as compared with the consumption habit of periodical bulk purchases from hypermarkets in Europe and the United States.

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Major Channels of Fruit Retail in China

The major channels of fruit retail in China include traditional markets, modern retail (including supermarkets, fresh food supermarkets and convenience stores), e-commerce, and fruit specialty retail (including fruit specialty chain retail and mom-pop stores). The table below sets forth the retail sales value and their respective proportion of these major channels.

Retail sales value and proportion of fruit retail channels (classified by channels)									
	2016		2021		2026E		CAGR 16-21	CAGR 21-26E	
	<i>Sales volume</i>		<i>Sales volume</i>		<i>Sales volume</i>				
	<i>(RMB billion)</i>	<i>Proportion (%)</i>	<i>(RMB billion)</i>	<i>Proportion (%)</i>	<i>(RMB billion)</i>	<i>Proportion (%)</i>			
Traditional markets . . .	345.4	41.8%	307.2	25.0%	301.8	17.0%	(2.3)%	(0.4)%	
Modern retail	239.7	29.0%	454.1	37.0%	594.7	33.5%	13.6%	5.5%	
E-commerce	27.7	3.3%	156.7	12.8%	346.2	19.5%	41.4%	17.2%	
Fruit specialty retail									
Fruit specialty chain									
retail	89.4	10.8%	165.4	13.5%	371.0	20.9%	13.1%	17.5%	
Mom-pop stores . . .	125.2	15.1%	145.5	11.8%	161.5	9.1%	3.1%	2.1%	
	214.6	25.9%	310.9	25.3%	532.6	30.0%	7.7%	11.4%	
Total	827.3	100.0%	1,229.0	100.0%	1,775.2	100.0%	8.2%	7.6%	

Traditional markets are full of a bargaining atmosphere with numerous fruit groceries, but the shopping environment is generally poor and there is a lack of standardized product specifications and quality.

Modern retail, with supermarkets as the representative, has multiple supply sources of fruits, transparent prices, guaranteed quality, as well as complementary offerings of other product categories, which is able to fully meet the immediate consumption demand of customers. However, due to the diversity of product offerings in supermarkets, they generally are less specialized in delicacy management of procurement, freshness management, spoilage management as well as quality classification, as compared with fruit specialty chain stores. Moreover, the location selection and operation of supermarkets require high management specialties.

The online-only e-commerce generally has a higher consumer acquisition cost and the competition is increasingly intensified. Moreover, as fruits are short-term fresh-keeping products, it is required to have relatively high freshness management technologies. There may be great differences between online displayed photos and the actual products, which may easily invite customers’ complaints and disputes due to poor supply chain management.

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The proficiency of fruit specialty retail is able to enhance consumption experience. Compared with modern retail, fruit specialty retail businesses have in-depth experience in exploring fruit categories. It also ensures a more professional product selection with a relatively higher standards and requirements for fruit quality and specifications. Within the sector of fruit specialty retail and compared with the mom-pop stores, fruit specialty chain retail typically possesses a uniformed management system and maintains a certain level of standardization with respect to procurement, product classification, warehousing and logistics and sales. Particularly, those domestically leading national fruit specialty chain retailers generally place their focus on supply chain management, adopt standardization with respect to various operational procedures, and are committed to establishing channel brands as well as fruit product brands, which allow their consumers to enjoy high-quality services and products.

Fruit specialty retailers with community stores and omni-channel that rely on the brand influence are expected to have greater growth potentials.

- Community stores have experienced a rapid development in recent years, which typically are located close to residential areas and are able to provide home delivery service. Such a model has a high penetration rate and can meet the face-to-face selling feature that is suitable for sales of fruits. It also caters to the consumers' needs for convenience and personalized services. Meanwhile, community stores are usually small in size, achieving a high average sales per unit area. However, operating a community store imposes relatively higher requirements of managerial skills of store managers and depends on brand influence.
- Omni-channel new retail has been developing quickly in recent years, which offers rich product categories. On one hand, online purchase provides great convenience. On the other hand, offline stores are able to provide warehousing capabilities and attract consumers to step in and make repeat purchases.

MAJOR GROWTH DRIVERS OF FRUIT INDUSTRY IN CHINA

The upgrade of food and beverage consumption and improvement of consumers' awareness of health drive the increase of fruits consumption

With the upgrade of food and beverage consumption and the acceleration of the pace of life, Chinese people pay an increasing attention to health. The increase of consumers' awareness of health promotes the fruits consumption. According to Frost & Sullivan, the per capita consumption of fruits increased from 43.9 kilograms in 2016 to 52.7 kilograms in 2021, representing a CAGR of 3.7%. It is expected to reach 60.5 kilograms in 2026, representing a CAGR of 2.8%. Compared with developed countries, the per capita consumption of fruits in the United States was 2.1 times of that in China, while for Japan, which has a similar diet structure with China, the per capita consumption of fruits was 1.4 times of that in China. There is a great potential for the growth of China's fruits market. Meanwhile, as China's economic growth has led to a continuous increase in disposable income per capita, after meeting individual basic needs, consumers have shifted their focus from "being full" in the past to

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“eating well” and “eating healthily” nowadays. Consumers pay more attention to food safety and food sources, and are willing to pay a premium for high-quality fruits. In particular, with the deepening of urbanization, consumption upgrade and the growth potential of consumption capacity of residents in the third and fourth tier and below cities in China have entered into a high speed track.

In August 2019, the National Health Council issued the “Healthy China Action (2019 – 2030)” (Healthy China Action), encouraging residents to improve their diet structure, and constantly emphasizing the importance of promoting healthy diet. The continuous improvement of health awareness is mainly represented by vegetarian and organic food as healthy diet.

In addition, since the younger generation gradually realizes the significance of healthy diet and time fragmentation, and due to the directly edible characteristics which enable fruits to become a snack between meals, the younger generation has consumed fruits as the main dietary substitute in their daily leisure, which has further promoted the expansion of the consumption scenarios and enhanced the consumption and market growth of fruits.

Rapid development of supply chain and improvements in cold chain and constant temperature warehousing logistics technologies

Due to the difficulty of fruit warehousing, high requirements for transportation and other specialties, the lag of logistics technology in the past has caused considerable loss of fresh food. The expansion of logistics coverage, and rapid developments in cold chain and constant temperature logistics technologies have enabled the upgrades of professional transportation vehicles and warehouses, which has increased the transportation speed, and effectively reduced the loss. Looking forward, cold chain enabled logistics will develop rapidly and account for a considerable proportion in the whole logistics network. Self-built logistics and third parties of professional cold chain are expected to grow rapidly, addressing the huge demand for cold chain logistics. Expansion of logistics coverage, including more constant temperature warehouses, professional transportation vehicles and labor force, is able to speed up transportation and reduce damage costs. With continuous applications of the Internet of things, block chain, radio-frequency identification, intelligent temperature control and other cutting-edge technologies in cold chain logistics, real-time monitoring means, such as cold chain traceability and whole process monitoring, will be gradually commercialized in the logistics phases, which will effectively guarantee the quality control and reduce loss of fruit products. The development of supply chain and the promotion of cold chain warehousing and logistics technologies have successfully guaranteed the quality of the fresh food products from farmland to dining table, further driving rapid development of fresh food industry.

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National support policies for fruit industry

In recent years, China has launched a series of policies to vigorously support the development of the fruit industry, covering planting, logistics, sales and other aspects. Such policies emphasize the importance of agricultural quality and safety to the lifestyle of citizens, and encourage the transformation and upgrade of agricultural products, standardization of logistics and warehousing, as well as new retail of agricultural products. The following table summarizes several relevant policies and government supported projects launched by the central government in recent years:

Policies	Date of issuance	Issuing authorities	Objectives of policies
Development Plan for Cold Chain Logistics of “14th Five-Year”	2021	State Council of the PRC	Building a national backbone network of cold chain logistics with internal and external connections, improving the large-scale development and network operation of cold chain logistics, improving the utilization efficiency of cold chain facilities in production areas and the level of post-production commercialization of agricultural products, and giving full play to the important role of cold chain logistics in promoting consumption and improving social and people’s livelihood.
The Rural Development Plan of Digital Agriculture (2019-2025)	2020	Ministry of Agriculture and Rural Affairs, the Office of the Central Cyberspace Affairs Commission	Promoting the development of digital agriculture and rural construction by establishing a basic data collection system. Speeding up the digital transformation of production and operation, promoting the digital transformation of management services, strengthening the innovation of key technologies and equipment, and implementing the construction of the National Agricultural and Rural Big Data Center.

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Policies	Date of issuance	Issuing authorities	Objectives of policies
Main Points of Planting in 2019	2019	Ministry of Agriculture	Adhering to “integration, improvement, promotion and unsealing” to deepen supply-side structural reform of agriculture, stabilize grain production, ensure supply of major agricultural products, adjust and optimize the planting structure, accelerate the promotion of green development, and comprehensively promote the development of high-quality planting industry.
Opinions on Accelerating the Development of Cold Chain Logistics to Ensure Food Safety and Promote Consumption Upgrade	2017	State Council of the PRC	Establishing a modern cold chain logistics system with strict standards and better traceability covering the entire value chain. Improving cold chain logistics infrastructure network and cold chain logistics information level, improving cold chain circulation rate, refrigerated transportation rate of fresh agricultural products and perishable food, and reducing the decay rate of fresh products.
Opinions of General Office of the State Council on Promoting Innovation and Transformation of Physical Retail	2016	State Council of the PRC	Proposing 16 specific measures in five categories to promote the transformation, upgrade and development vitality of physical retailers. Among those, measures such as promoting online and offline integration, innovating operation mechanism, simplifying administration and decentralization, promoting fair competition and reducing tax burden of enterprises have become important guarantees to support the development of new retail industry.
Guiding Opinions of the State Council on Vigorously Advancing the “Internet Plus” Action	2015	State Council of the PRC	Emphasis is placed on improving the rural e-commerce distribution service network and solving the key problems such as standardization of agricultural products, standardization of logistics, cold chain warehousing construction, etc..

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MAJOR TRENDS OF FRUIT GROCERIES INDUSTRY IN CHINA

Promotion of establishment of standard system of the entire industry chain from agricultural modernization and continuous improvement of supply chain efficiency

For the planting end, the planting process of fruits in the past often lacked support of modern agriculture, while the mechanized production capability was low, and the planting was highly dispersed. With the development of modern planting technology and science and technology, the mechanization level in planting of fruit groceries has been greatly improved, gradually transforming the planting into centralized cultivation and realizing the application of technology, standardization and promotion of large-scale cultivation of fruits, so as to reduce costs, improve quality and production volume, and meet the increasing consumers' demand. In terms of warehousing and logistics, by virtue of advanced cold chain logistics and supply-chain management capabilities, enterprises may simplify and shorten the circulation process, improve circulation efficiency and reduce costs. In terms of sales channels, fruit specialty retailers, modern retailers and e-commerce operators rely on the optimization of connection from cultivation to sales and trend of direct sourcing, to shorten the circulation phases and logistics duration, reduce losses, further improve the overall supply chain efficiency, and increase corporate profitability and quality control level.

For example, direct sourcing accounts for a high proportion of the procurement of certain leading retailers which shortens the procurement chain, and ensures product quality and freshness from the source. To the sales end, delivery from the city warehouses to the store warehouses, integrated warehouses or front warehouses covers the communities within one to three km, which in turn shortens the time for logistics and ensures freshness and prompt delivery of products.

Replacement of traditional channels by modern retail and new retail

Traditional markets have been replaced by modern retail and fresh specialty retail. China's large-scale urban transformation has led to continuous reduction in the number of traditional markets. At the same time, diversified sales channels have emerged and entered to the market to meet the consumers' needs for enhanced convenience and shopping environment, in particular, the omni-channel new retail which offers diversified consumption scenarios. New retail represents a consumer-centric and data-driven form of retail. Omni-channel new retail typically refers to the integration of online and offline shopping, leveraging modern technologies, data and customer engagement techniques. On one hand, offline face-to-face selling is able to enhance the consumption experience. On the other hand, the integration of online and offline sales is able to meet the needs of immediate consumption and convenience. Consumers have been gradually shifting from traditional markets to new retail operators. According to Frost & Sullivan, in terms of fruit retail sales value, the proportion of traditional markets decreased from 41.8% in 2016 to 25.0% in 2021 with regard to the retail market for fruits, and will continue to decrease. It is expected to decrease to 17.0% in 2026.

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New retail model, such as e-commerce and omni-channel retail, has been emerging. New retail model leverages technologies to grasp consumers' purchasing habits and provide more convenient shopping experience and more choices. Its market share among all the fruit retail channels has been continuously increasing. On the other hand, community-based offline fruit specialty chain retail is able to cover the communities within one to three km., which offers convenient shopping experience, hence driving high repeat purchase rate. Being closer to consumers may bring more understanding about the purchasing habits of consumers, so as to place fewer products by changing different product categories, thereby reducing the loss of fruits. Meanwhile, fruit new retail operators take advantage of the integration of cultivation and sales end to shorten the logistics duration, and reduce losses. Such advantages have enabled new retail model to play an increasingly important role in fruit retail industry, further contributing to the growth of the industry. According to Frost & Sullivan, in terms of total fruit retail sales value, the aggregate proportion of e-commerce and omni-channel new retail increased from 3.3% in 2016 to 19.0% in 2021. The market share will increase significantly, and it is expected to reach 33.5% in 2026.

In addition, the outbreak of COVID-19 in the beginning of 2020 accelerated the acceptance level and frequency of use of online consumption of fruit grocery products, causing many retail operators who only operated offline stores to immediately establish online channels. Even after the outbreak of the pandemic, the fruit industry's trend to expand online business opportunities based on offline stores is expected to continue.

Application of science and technology to control fruit quality, reduce loss rate, improve operation and maintenance efficiency of enterprises for reducing costs

Fresh and fruit retailers will catch up with the progress and integration of 5G, artificial intelligence, big data and other technologies to improve logistics management, control the quality and freshness of fruits, reduce losses to reduce costs. Through the feedback from front-end sales data, retailers may adjust the variety, quantity and brand of fruits to reduce unsalable fruits and eliminate unnecessary costs. Efficient delivery and replenishment of goods will be carried out through the Internet of things and real-time data sharing to ensure the freshness and quality of fruits. In addition, retailers may also store a large number of customer data, such as purchase frequency, favorite fruit categories, preferred brands, etc., and formulate a personalized membership system to achieve accurate and personalized marketing.

Diversified offering and branding of fruit categories, and increase of imported fruits

The increase of consumers' demand promotes the diversified offering and branding of fruit categories. In addition, as disposable income per capita increases and consumers are more concerned about the consumption experience, fruit buyers will select high-quality retailers which provide more fruits.

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At present, China's fruit industry is in the period of industrial transformation and upgrade, and fruit products are transforming to standardization. Meanwhile, with the awakening of brand awareness, fruit companies have begun to build their own brands. However, currently, there are few enterprises simultaneously deploying channel brands and product category brands. Traditional and emerging fruit retailers rely on purchasing diversified fruits and quality control to improve the ultimate value-adding to the products, creating category brands with differentiated products to establish their own brand images. Stronger planting and processing technology, mechanized-oriented unified processing, as well as the emphasis on quality control ensure and accelerate this trend. A strong fruit brand will change the traditional idea that customers may only evaluate fruits in accordance with the place of production and freshness, in order to increase customer stickiness, and maintain a long-term relationship with loyal customers while realizing brand premium.

There will be more imported fruits and diversified fruit varieties in the fruit retail market in the future. With the support of Belt and Road Initiative, and development of long-distance transportation, it will be more efficient for retailers to import fruits from all over the world to meet the needs of consumers for imported fruits.

BARRIERS AND COMPETITION PATTERN OF FRUIT GROCERY MARKET OF CHINA

Barriers to Entry

The new market entrants of fruit industry in China encounters numerous barriers, including the following relevant contents:

- **Standardization system and brand:** standardization of agricultural products is different from other commodities, and fruit products are not easy to be quantified by standards. There is no recognized industry standard for fruits in China. Fruit retailers have to invest tremendous time and money to establish and maintain their own purchasing standard and quality control systems. In order to provide standardized and branded fruits, retailers shall set standards for the entire process, including planting, picking, sorting and packaging.
- **Logistics and warehousing:** it is difficult to build and manage cold chain logistics and "last kilometer" distribution system. Fruit products are fragile and perishable, and need a well-designed cold chain logistics system. Fresh products such as fruits are particularly vulnerable to high temperature and careless unloading during transportation and warehousing, which may lead to deterioration and damage. The well-designed cold chain logistics system is an obstacle for new entrants. In addition, the threshold with respect to cold chain logistics for new retail of fresh food is even higher than that of traditional retail of fresh food, as the new retail model has higher standards for service and user experience.

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- **Capability of controlling the quality to supply high-quality fruits:** high-quality fruit producers and brand suppliers are scarce resources in China, so retailers need to have strong upstream control ability. At present, large-scale retailers in China mainly cooperate with producers through direct sourcing, intervene in the upstream supply chain, provide relevant planting technical guidance, formulate relevant fruit standards based on accumulated rich industry experience, and improve the quality and stability of fruits while reducing the circulation phases. In addition, retailers have long-term cooperation with domestic and overseas large brand suppliers to further guarantee the quality.
- **Information technology and capability of operation management:** advanced ERP system (or sales, inventory and transportation management system) is required for daily operation, which is the basic technical obstacle for new retail operators of fruit groceries. Offline and online sales and data are converging into a new retail model, and “middle-end” management is becoming increasingly important. In terms of product operation, using big data and artificial intelligence technology to manage their users and marketing activities requires a skilled and experienced team. The management of new retail operators of fresh food (such as fruits) are required to have a deep understanding of rapidly updated retail models in China and the way to realize the digitalization of business and operation, and better understand the latest market trends and changes in the preference of consumers. A strong membership system may manage a large customer base and maintain high consumer loyalty. The data collected by retailers in the membership system may better understand consumers’ needs, such as understanding consumers’ preference for fruits, adjusting the types and sales methods of fruits in a timely manner in accordance with the changes in demand, and improving loyalty of users. Fruit retailers need to distinguish, recognize and grasp the needs of consumers in order to bring user retention.
- **Capital investment:** Building its own operation system, from the layout of planting end (modern planting technology) to channel end (warehousing and logistics) and retail end (store, front-end warehouses and marketing, etc.), requires a large amount of capital as support. For example, the maintenance and labor cost of the operating logistics system is also a heavy financial burden for retailers. High rotten rate of fruits in the process of transportation and warehousing has put great pressure on the early profits of fruit retailers, which requires sufficient funds for support.

Competitive Landscape

Fruit retail industry in China is highly fragmented, with fierce competition among existing market participants. According to Frost & Sullivan, in 2021, in terms of fruit retail sales value, the Group was the largest company in the fruit retail industry in China, accounting for 1.0% of the market share, and the top five participants accounted for an aggregate of 3.6% market share in total.

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The following table shows the top five retail enterprises in China in terms of fruit retail sales value for the twelve months ended December 31, 2021, and each of their market share and the number of stores as of December 31, 2021.

Top five retail enterprises in China in terms of fruit retail sales value

Rank	Name	Retail sales value of fruits <i>(RMB billion)</i>	Market share	Number of stores
1	Pagoda (百果園)	12.7	1.0%	5,249
2	Company A ⁽¹⁾	10.8	0.9%	4,320
3	Company B ⁽²⁾	8.5	0.7%	1,065
4	Company C ⁽³⁾	7.7	0.6%	4,313
5	Company D ⁽⁴⁾	5.2	0.4%	302

The following table sets forth the top five fruit specialty retail enterprises in China in terms of fruit retail sales value for the twelve months ended December 31, 2021, and each of their market share and the number of stores as of December 31, 2021.

Top five fruit specialty retail enterprises in China in terms of retail sales value

Rank	Name	Retail sales value of fruits <i>(RMB billion)</i>	Market share	Number of stores
1	Pagoda (百果園)	12.7	1.0%	5,249
2	Company E ⁽⁵⁾	4.5	0.4%	1,800
3	Company F ⁽⁶⁾	2.7	0.2%	817
4	Company G ⁽⁷⁾	1.3	0.1%	2,570
5	Company H ⁽⁸⁾	0.9	0.1%	246

* *Source: Frost & Sullivan, based on company public information and independent research of Frost & Sullivan*

Notes:

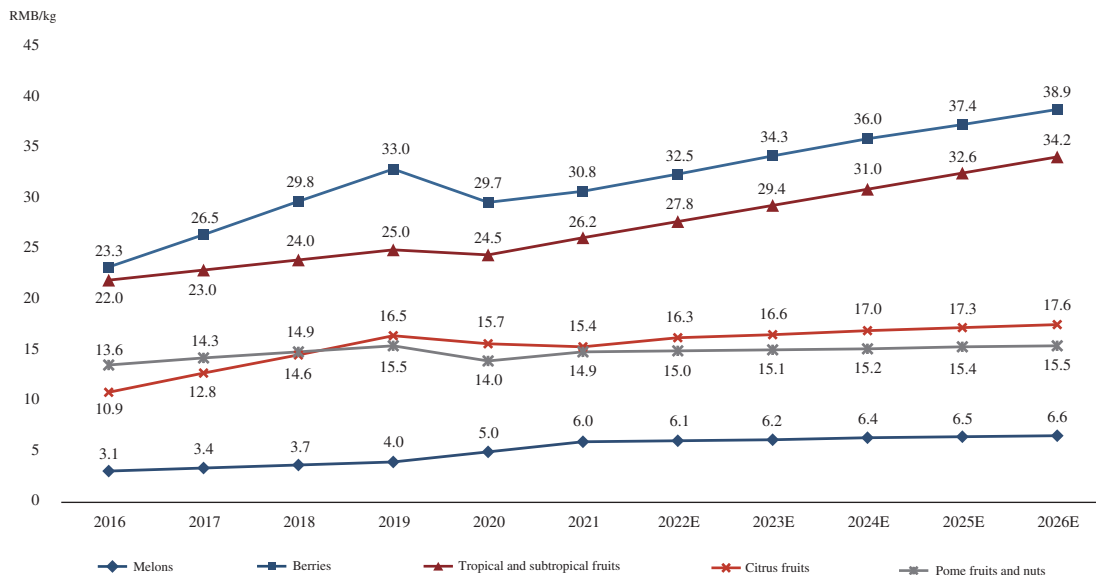
- (1) Company A is famous as an e-commerce platform for services. It cooperates with a number of merchants and diverse partners to offer consumers quality services across field (e.g. entertainment, dining, stores business, food delivery, travel, hotel and others). It accelerates the digital upgrade of life service industry in China. It has covered more than 300 cities in 20 provinces and municipalities in China.
- (2) Company B is a leading fresh food retail company in China with multi-level brands of supermarkets. It provides fresh food, fresh agricultural and other products through self-operated supermarkets, warehouse stores and online platforms. As of December 31, 2021, it had 1,057 stores of supermarket format, covering 29 provinces and municipalities in China.
- (3) Launched in 2020, Company C is an agricultural platform/channel offering next-day low-cost grocery pick-up service, operated by an emerging social e-commerce giant in China. Company C is a natural extension of the social e-commerce giant’s mobile commerce platform. It is featured on the internet giant’s Apps, offering groceries like fresh food, dairy products, alcohol and beverages, snacks, condiments, household necessities (e.g. detergent) and medical supplies.

INDUSTRY OVERVIEW

- (4) Developed by a leading China internet giant in 2016, Company D is the kind of supermarket which embodies the fusion of e-commerce with brick-and-mortar retail through integrating both online and offline experiences and services. Positioning as a new retail model of supermarket, Company D is driven by data and technology during the provision of fresh food to consumers.
- (5) Company E operates fruit stores since 1997 with five major operating fruit-related brands as one of the largest fruit chain enterprises in China. It has more than 2,000 stores nationwide and operates modern cold chain storage centers. It also cooperates with fruit planting bases around the world and directly participates in fruit planting and other industry value chain.
- (6) Founded in 1998, Company F is a fruit specialty retail enterprise integrating fruit planting, wholesale, e-commerce business and chain-store retail. It has a modern logistics distribution center and directly supply fruit orchards around the world.
- (7) Company G is a fruit specialty retail enterprise founded in 2012. It develops rapidly with nearly 400 retail stores in Jiangxi Province within two years. At present, it has 3,000 stores across the country.
- (8) Founded in 1991, Company H has engaged in the supply of fruits, fruit juice and other food procurement and sales activities for more than 30 years and has become a famous large-scale fruit chain supermarket in Zhejiang Province.

PRICE OF RAW MATERIALS OF MAJOR FRUITS

According to Frost & Sullivan, the following table shows the wholesale price of major fruit categories in China from 2016 to 2026.



SOURCES OF INDUSTRY DATA

We engaged Frost & Sullivan, an independent market-research consultant, to analyze the fresh food market in China and prepare a report for the purpose of this document, for which we paid a commission fee of RMB1.15 million. Frost & Sullivan is an international consulting company founded in 1961. Currently, Frost & Sullivan has a total of more than 2,000 industry consultants, market research analysts and economic experts in 40 offices over the world.

INDUSTRY OVERVIEW

Frost & Sullivan prepared this report based on data published by government authorities, NGOs and its preliminary research.

As events or combinations of events that cannot be reasonably foreseen, including but not limited to the actions of governments, individuals, third parties and competitors, the forecasts and assumptions contained in the Frost & Sullivan Report are essentially uncertain information, which may be substantially different from the actual results. The specific factors leading to such differences include, but are not limited to, the inherent risks, financial risks, labor risks, supply risks, regulatory risks and environmental problems in the retail market of fresh groceries and fruits in China.

Unless otherwise specified, all data and projections contained in this section are extracted from the Frost & Sullivan Report. Directors confirm that, after reasonable and prudent action, there has been no adverse change in the overall market information since the date of Frost & Sullivan Report that would subject the data to significant restrictions, contradictions or adverse effects.