

# Improving the quality and efficiency of modern fruit Agriculture by "Production-addition" integrated management

## -- Taking Bengbu blueberry industry as an example

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### Abstract

Agricultural chain involves production, processing and sales and other links. The integration of "production and marketing" in agriculture helps to reduce circulation links and promote rural revitalization. However, the organization degree of Chinese farmers is low, the agricultural production is highly dispersed, the information between farmers and the market is asymmetrical, and it is difficult for farmers to connect with the upstream technology sources. In order to prevent too many intermediate links from crowding out the thin profit of farmers, resulting in serious cost losses in the circulation link, the purchasing power of fruit consumers decreases, and the phenomenon of fruit waste emerges in an endless stream. This paper will take the planting, processing and sales of blueberry products after the epidemic as the main focus, and analyze the development situation of the blueberry garden industry in Bengbu City, with the purpose of promoting the development of high-quality fruit agriculture, leading enterprises will drive the development of the fruit industry, promote the clustering and intellectualization of agricultural production, and improve the quality and efficiency of modern fruit agriculture.

### Keywords

Integration of production and marketing, development of high-quality fruit, blueberry, agriculture.

## 1. Research Background

As a kind of small berry, blueberry has high nutritional value and rich taste, which has been deeply loved by the majority of fruit consumers. As early as more than a decade ago, Shandong, Yunnan, Sichuan and other places began to explore the cultivation of blueberry. It is clearly mentioned in the rural revitalization strategy that industrial prosperity is the key to rural revitalization, and the integrated operation of "production, marketing" plays an essential role in promoting the development of agriculture. In the report of the 20th National Congress of the Communist Party of China, it is emphasized to adhere to the development of agriculture and rural areas, steadily promote the revitalization of rural industries, accelerate the construction of an agricultural power, actively promote the deep integration of scientific research and production, fully implement the leading enterprises to drive the high-quality cluster development of the blueberry industry, and strive to realize the positive interaction and complementary advantages between the sale of fine fruits and the transparent market. As a well-known city in northern Anhui, Bengbu enjoys advantageous geographical location where Nan-Luo-Expressway and Beijing-Taiwan Expressway meet. Relying on the high-speed railway network extending in all directions, Bengbu becomes a major development point of the traffic hub in northern Anhui. Besides, Bengbu enjoys suitable climate, fertile soil, light and water

sources, which give Bengbu obvious geographical advantages of blueberry planting. Located in Tianrong Village, Yanshan Township, Bengbu District, Bengbu City, Anhui Province, Bengbu Blueberry Ecological Farm has become a tourism leisure holiday farm integrating ecological planting and breeding, catering and accommodation, conference and entertainment, farming and picking, fishing and leisure, etc., on the basis of blueberry and other fruit planting. It has become a model for the integrated operation of "production, processing and marketing" of fruit agriculture in Bengbu City.

This paper will start with the development of blueberry, compare the development of blueberry planting bases other than Bengbu, and start with the current development situation and follow-up development to create a loud name card of fruit agriculture, raise the attention of fruit agriculture, improve the quality and efficiency of modern fruit agriculture, and make the society face the rising price of fruit. The situation that consumers are unable to buy some fruits can be solved.

## 2. Research significance

### 2.1. Theoretical significance

Once the theory of integrated operation of production, processing and marketing was put forward, it was piloted in a large number of agricultural production bases, and adapted to local conditions, combined with excellent management experience, to achieve widespread promotion. In the main links of planting, processing and marketing of agricultural products, by selecting high-quality raw materials, we can cultivate high-quality agricultural products that can be cultivated on a scale, break through the upstream and downstream information barriers, extend the development chain, broaden the transparency of the trading market, realize the intensive processing of agricultural products in line with the market demand, and drive the surrounding agricultural production cooperatives with the development of leading industries as the guide. Radiate to small agricultural production families, and create cluster agricultural development. The position of integrated operation of production, processing and marketing in agricultural development cannot be underestimated. First of all, the integration of agricultural production and marketing can help farmers quickly turn agricultural products into cash, so that farmers can obtain stable income, more conducive to stimulate the enthusiasm of farmers, play the role of farmers construction, integrate farmers into the development of agriculture to promote agriculture. Secondly, the integration of agricultural production and marketing can help enterprises break through various chains, realize the linkage development of agriculture upstream and downstream, save input resources, use the group mode to maximize the benefits and reduce the cost of agriculture. Third, we need to promote agricultural modernization. The integration of production, processing and marketing is not only an industrial model, but also a modern agricultural management model. This model involves modern planting and breeding, modern processing and modern management. It can follow the pace of The Times and make innovative changes to the agricultural management model according to the situation. Promoting the development of the integration of "production and marketing" is helpful to improve the marketing environment of agricultural products, optimize the production structure of agricultural products, train talents for the construction of agricultural products, and effectively develop the production and marketing channels of agricultural products. The COVID-19 pandemic has had a negative impact on agriculture. Strict circulation and transportation links of agricultural products and strict traffic blockades in various regions are bound to deal a heavy blow to agricultural development. In the post-COVID-19 era, with the gradual liberalization of epidemic prevention and control, the integration of production, processing and

marketing also shows a positive trend of steady upward and gradual development, which has become a good news for agricultural development.

## **2.2. Practical Significance**

This paper will deepen the agricultural production and marketing integration development mode, from a more concise perspective on the development of fruit agriculture with blueberry as the main business model, through the cultivation, processing and sales of blueberry and other key links of detailed description, to obtain the fruit agriculture production and marketing integration of reasonable countermeasures and effective experience, to meet the needs of consumers for fresh fruit. Blueberry is one of the fruits with great social demand but insufficient production supply. The research on the beneficial role of the integrated production and marketing mode in the supply and demand of blueberry provides some practical feasibility and potential prospects for the development of modern fruit agriculture to deal with some practical problems. Currently, most of the blueberry products circulating on the market are sold in the form of hand-selected small boxes of fresh fruit, or fruit flavored drinks and snacks with blueberry added ingredients appear in the public view. However, the main benefits of blueberry are still concentrated by most manufacturers. Manufacturers buy fresh blueberries at low prices, while consumers buy blueberry products at high prices. Funds and information are blocked by a small group of people. The design of integrated production, processing and marketing mode can help blueberry enterprises to collect nearby radiation areas. Farmers can refer to the market operation mode in the planning and management of leading enterprises, approach the market demand according to the market information, and participate in the processing and sales of blueberries after picking. They can get rid of the redundant processes of purchasers and retailers, reduce costs, reduce losses, and expand sales. To realize the transformation of the value form of blueberry and its additional products. In addition to increasing the material benefits, the value and market contained in the blueberry agricultural development mode are far concentrated on the material. According to the experience and relevant considerations in the promotion process, the design ideas and its own limitations are improved to give enlightenment to the development of modern agriculture, especially for farmers and fruit consumers. Under the right management mode, farmers can achieve industrial prosperity. Users enjoy the "fruit freedom", which provides a unique idea for improving the conversion rate of fruit commodities.

## **3. Production and marketing integration and blueberry agricultural development status analysis**

Agricultural products, as the main consumer goods in People's Daily life, play an indispensable role in people's life, and with the increase of consumers' purchasing power, the public consumption habit gradually changes from the pursuit of quantity of primary agricultural products to the pursuit of high-quality agricultural products nutrition safety. With the increase of the relative planting cost of crops and the decrease of the price of agricultural products, the development of new agricultural products with a certain production scale and management ability to extend the industrial chain and promote the linkage development of "production, processing and planting" has become the mainstream of development. Due to the substantial increase in the output of major products in rural diversified operations, and the weak international and domestic sales markets, circulation began to restrict production. More and more people realize that developing the integration of production and marketing is a realistic choice for the stable development of multiple operations. For example, in 2019, 495 grain producers in Zhejiang Province carried out integrated rice production, processing and marketing, accounting for 3.03% of the number of large-scale rice producers in the province. However, the deep processing capacity of agricultural products is insufficient, the

industrial chain is short, the scale is generally small, and the deep processing and conversion rate of agricultural products are low. From the perspective of the industrial chain, the vast majority of farmers led by the leading enterprises are still at the bottom of the value chain of processing, circulation, service and other industries, the degree of integration of industrial management is not high, the links of the industrial chain are few, and the economic income is low.

In terms of blueberry development, taking Anhui Huining as an example, under government-led policies, the industrial chain of "breeding, planting, processing and tourism" is used to deepen industrial integration and promote the construction of "National Huining Blueberry Industry Demonstration Park". The county planting scale reaches 70,000 mu. As the largest blueberry garden in the Yangtze River Delta, it is a county-level blueberry planting area with 198 industrialized enterprises. There are 8 deep processing enterprises. In 2021, it successfully applied for the "one county, one industry (special)" demonstration county. Nearly ten percent of the towns in the county develop blueberry, and more than 80 percent of administrative villages take blueberry as the leading industry in village economic development, with the average income of blueberry exceeding 150,000 yuan in each village. Mengzha County began to plant blueberries in 2016, and by 2021, the area of blueberry planting in this county has reached 1500h square meters. The total output value of the industrial cluster is nearly 6 billion yuan, and the per capita income is as high as 40,000 yuan, more than 90% of the total income. However, due to the single planting varieties in this county and the lack of management awareness, the development of blueberry planting industry is facing stagnation.

#### **4. Development strategy of blueberry agriculture based on the integration of production, processing and marketing**

Starting from the application experience of the integration of production, processing and marketing in China, taking the blueberry production as the design blueprint, drawing lessons from the advanced cases of excellent agricultural development, improving the shortcomings of the original model in use, strengthening the integration of the blueberry industry, and giving new power to the new industry.

##### **4.1. Cultivate a variety of excellent varieties and improve the traditional planting methods**

Bengbu City is located in the north of Anhui Province, where Huaihe River runs through the city. Its unique geographical location and climate make it a suitable place for a variety of blueberry seedlings, such as Camille blueberry seedlings, jeweled blueberry seedlings, misty blueberry seedlings, Chungao blueberry seedlings, etc. Based on the existing varieties, blueberry seedlings that are more suitable for the local geographical environment should be cultivated according to the actual blueberry growth situation in Bengbu. In addition to increasing the planting varieties of blueberry, the planting method of blueberry should be changed. Besides the traditional soil culture, substrate cultivation should be introduced to make the shortcomings of rootless, hairless and not easy to absorb nutrients become the characteristics of substrate cultivation of blueberry. Starting from improving the planting quality and quantity of blueberry, the soil structure should be adjusted and the soil environment improved. Avoid the negative effects of soil compaction, continuous cropping obstacles and soil-borne diseases on the production of blueberry, increase the labor cost too much, which makes the production efficiency of blueberry slow.

When purchasing blueberry fruits from farmers, blueberry purchasers should make purchase plans in advance for the varieties, quantity and price of the purchased blueberries. Farmers should make blueberry planting plans according to the corresponding purchase

plans,strengthen the introduction and cultivation of excellent varieties,scientific and standardized planting,do not stick to traditional planting methods,and carry out excellent cultivation of blueberries in the primary link of raw material origin.

#### **4.2. Play a leading role in optimizing the industrial processing chain**

Leading enterprises should lead the development in agricultural industrialization and form a processing industry cluster operation trend with leading enterprises as the core. In the face of problems such as short agricultural chain, low added value, small but not refined, scattered but not clustered, processing enterprises should purchase blueberries from farmers and cooperatives in the radiation area and make reasonable treatment and utilization of fresh blueberries. Follow the organic certification and green certification system, after removing the graded selection of commercial fruit, the rest of the blueberries are processed again according to the damage caused by the pulp when picking and the quality after picking. The transportation of fresh blueberries should adopt appropriate preservation methods due to the distance from the transportation destination, so as to reduce the pulp damage caused by nutrient loss caused by respiration of the peel. Adopt the complex transportation mode of cold chain logistics. Reduce the processing loss of blueberry, improve the added value of blueberry.

#### **4.3. Based on market supply and demand preferences, online and offline linkage sales**

Before the introduction of blueberry products into the market,product research should be carried out. Based on the existing supply and demand information,the liking degree and purchasing frequency of consumers in different regions and groups should be mastered. Packaging and publicity of blueberry products should be carried out according to the preference value of human flow,so as to improve the re-purchase rate of consumers in a certain quarter or at a certain point in time and cultivate customers'purchasing habits.Increase the sales of fresh products in the early stage of hot buying,and adopt diversified marketing methods and discount activities to drive inventory in the late stage of slow sales;Keep up with market trends, integrate offline sales resources,cooperate with other e-commerce platforms,promote online sales of blueberry products,exchange information with upper and middle processing links,realize information sharing of production,processing and sales,constantly introduce new products, stimulate consumers'desire to buy,and promote the market circulation of blueberry products.

#### **4.4. The policy system is strengthened, and the integration of agriculture and tourism is highly developed**

The government provides the same policy support to blueberry production agriculture as other production agriculture, provides subsidies to blueberry agricultural cultivation, improves the fund recovery rate, and helps blueberry farmers sort out market information and publicize it through the government platform.Agricultural tourism activities are carried out in the blueberry planting base to increase the income source of blueberry agricultural tourism when there is no harvest. In the mature period of blueberry, the blueberry agricultural tourism saves part of the cost of blueberry publicity and blueberry picking in the base. The integrated development of agriculture and tourism acts as an engine to increase the income channels of farmers.

### **5. Conclusion**

Agriculture is the basis of farmers and the foundation of all industries. Exploring a more suitable agricultural development, agricultural products production and marketing, high-quality agricultural industry chain, can be for the welfare of many farmers, increase happiness.



At present, the implementation of the integration of domestic production, processing and marketing mainly focuses on bulk food or generalizing various types of agriculture, forestry, animal husbandry and fishery together to start the promotion of the integration model, for the refined case still needs to be studied and analyzed. In this paper, we focus on the development of blueberry agriculture and use it as a model. We will find out its feasibility in practice and its innovation in improvement, and further promote the development of modern fruit agriculture with refinement and high quality.

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