

# APPLE FULL NUTRITION UTILIZATION IN YA CITY

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## ABSTRACT

Shaanxi Province is a large and strong province in apple production in China. Its planting area and output rank first in China, accounting for 1/4 of the country and 1/7 of the world. Yan'an has an apple planting area of 3.31 million mu, with an annual output of 4.0053 million tons, ranking first among prefecture-level cities in China, and its excellent quality is world-renowned. However, the apple industry is large but not strong. It is an important way for the development of the Yan'an apple industry to increase the processing of apple NFC juice and low-alcohol fruit wine, and to develop food green additives and daily chemical products using apple processing by-products as raw materials. The project processes 200000 tons of apples annually and mainly uses low-temperature processing technology to produce NFC apple juice, foamed Apple clear juice, apple wine, apple ice wine, leisure functional food, food-grade apple pectin, apple polyphenols, etc. The production scale ranks first in China. The project's total investment is 1.076-billion-yuan, including buildings and structures, production equipment, utilities, and initial working capital. The project covers an area of 72304 square meters and 24 buildings and structures, including a complex building, warehouse, R&D center, experience center, power, sewage treatment and other public works. The first phase of the project involves the construction of sparkling clear juice, cider workshop and utilities; The second phase of the project involves the construction of an NFC turbid juice line, brandy ground wire and pectin workshop; The third phase of the project involves the construction of NFC juice clearing line, polyphenol workshop, fruit residue fermentation high-value products, R&D center and leisure functional food and experience center.

**Keywords:** Apple, whole utilization, Market.

## SECTION 1 Introduction

### 1.1 Introduction

#### 1.1.1 Total investment of the Project

The whole investment includes the construction, production equipment, public utilities, and reserve funds, with a total of 1,076.512 million yuan.

#### 1.1.2 Project implementation content and preliminary implementation plan

The building of this project covers 72,304 square meters, with 24 structures, including the complex building, warehouse, research and development center, product display area customer experience center, power and sewage treatment and other public works. The first phase could build sparkling juice, cider (sparkling) workshop and utility works. The second phase will be used to build NFC turbidity juice line workshop, apple ice wine, apple brandy production workshop and pectin workshop. The third phase builds NFC fermentation juice production line, apple polyphenols workshop, fruit residue fermentation high-value product production line, leisure function food production line, and product development center, display area and the customer experience center.

#### 1.1.3 Significance and necessity of This Project

Shaanxi province is a large and a developing province especially in the apple production with its planting area and output in China. It accounted for one-quarter of the country and 1 / 7 of the world. Yan'an apple planting area of nearly 4 million mu, ranking first among the prefecture-level cities in China, its excellent quality is renowned around the world. However, the Apple industry is great but not strong enough, especially in the processing industry and its branding is unsuccessful. Therefore, the position of increasing the investment and construction of apple processing is urgent. In the domestic market, NFC fruit juice and low-degree fruit wine are two important ways out of fruit processing.

However, the apple industry has not dominated market first product except for concentrated fruit juice. And in the international market NFC juice, cider, apple ice wine, apple brandy, apple pectin, apple polyphenols, and leisure function food (puffed food, apple meal replacement powder) are favored by the market and consumers, with apple processing

by-products as raw materials to develop food green additives, cosmetic products also have a good application prospect. Yan'an is not even has integrated apple nutrition full utilization technology in Shaanxi Province to develop related products manufacturers.

Some existing enterprises produce cider based on the wine method, and products and models are not successful. As Yan'an ranking the largest apple planting area in China and the city continue to play the advantages of the apple "rural revitalization" strategy leading industry, the construction of integrated apple diversification, nutritional processing and highvalue using technology innovation chain demonstration project, explore new apple processing method and business model, to promote Yan' an and Shaanxi apple into people's livelihood industry transformation and upgrading quality efficiency is significant.

## **1.2 Economic and social benefits**

### **1.2.1 Social benefits**

The new technology adopted in this project has improved the flow of traditional fruit juice processing. It adheres to technological innovation, energy saving and consumption reduction and green environmental protection, reasonable capital investment, eliminate backward production capacity, constantly improve the energy utilization rate, and reduce environmental pollution. The implementation of the project will gradually change the domestic apple industry through fresh fruit products. To further improve the consumption level of apple processing products, promote the transformation and upgrading the whole industry, to realize the quality of efficiency will also promote the development of fruit processing in our province, change our province through apple concentrate production industry status . To increase fruit income, driving the development of fruit industry plays ankey role. It will also enhance the level of technology and international competitiveness of China's apple processing industry. It plays an important guiding role in leading the new reform of the apple processing industry and driving technological innovation and industrial upgrading in the fields of agriculture and society. In addition, since the main apple- producing areas are mainly agricultural and relatively backward rural areas, the implementation of the project will play a key role in helping to achieve "one village, one product" and rural revitalization.

### **1.2.1 Environmental benefits**

With the country's attention to environmental protection and the improvement of people's environmental awareness, especially the western development, ecological construction has been the attention of all walks of life. Furthermore, there is a preferential investment in this. Through the implementation of this project, the disadvantages of traditional apple processing in China can be improved. The nutritional functional fruit juice processing technology takes circular economy as the main line and solves the issues of waste of apple nutritional resources and environmental pollution. In the implementation of the project, we firmly establish the concept of circular economy and adhere to the unity of economic benefits, ecological benefits, and social benefits. We should take the carrying capacity of the ecological environment as the premise of access and realize the transformation of economic and social development from "environment for growth" to "environment for optimized growth". Measures to eliminate pollution and protect the environment should be implemented before or in the process of economic development and construction projects, eliminate the main reason causes of environmental problems, preventand control pollution from the source, and build a resource-conserving and environment- friendly society.

### **1.2.3 Economic benefits**

The project has good profitability and economic benefits.

(1) The project construction investment is 84.654 million Yuan, which include 81.154million Yuan in fixed assets investment and 3.5 million Yuan in interest during the construction period.

(2) After the completion of the project, the estimated annual sales revenue is 240 million Yuan, the total annual average profit is 53.1495 million Yuan, the annual average tax paid is 46.2313 million Yuan, and the average annual after-tax profit is 39.8621 million Yuan. The total investment return rate of the project is 45.05%, and the investment paybackperiod is 3.52 years (including the construction period).

(3) After the completion of the project, it will directly promote the annual employment by 90 employees, and at the same time, it will indirectly promote the development of apple seedlings, planting, storage, transportation, processing machinery, digital Internet of Things, and other industries, with remarkable benefits in both social and economic fields.

## SECTION 2 Industry Analysis

### 2.1 The SWOT analysis of this project

| S(superiority)   | W(inferior strength or position)   |
|--|--|
| Raw materials: low cost, stable source.<br>Technology: advanced technology, large-scale.<br>Transportation: production area processing, low transportation cost.<br>Cost: full use of raw materials, low cost; | Brand: Need time to promote, improve the acceptance.   |
| Policy support: state support, Shaanxi Province to build a 100 billion level apple industry.<br>Market development: Apple quality is good, Yan'an has the brand effect;  | Raw material competition: low-end manufacturers to buy raw materials. Market competition: many small businesses, eager to try; |
| O(chance)  | T(threaten)  |

### Company Description

Company A focuses on promoting the agricultural supply-side structural reform and the transformation between old and new growth drivers, accelerating the transformation of the agricultural development mode, which will comprehensively be improving the quality and efficiency of modern agricultural development, and realizing the quality change, efficiency change and power change.

#### 6.1 Strategic basis

(1) The company is in Yan'an, a prefecture-level city with the largest apple planting area in China, with rich apple resources and excellent fruit quality, which is one of the important preconditions for the implementation of the strategy.

(2) The company is invested in and established by the Yan'an municipal government. In order to achieve rural revitalization, seek high-quality industrial development, to establish a smooth sales channel and market network.

(3) The project has been supported by the Education Western Fruit Resources High-value Utilization Engineering Center with advanced continuous non-thermal sterilization, biological juice production and other technical means, rich apple variety resources and fruit fermentation fungus library, and has an experienced technology and research and development team.

(4) The company has started the construction of the first phase of the project, which has laid a good foundation for the subsequent construction.

#### 6.2 Strategic envision and implementation

(1) Introduce strategic investors or financial investors to enrich the material basis of the company's development.

(2) Closely around the "technology" and "market" these two key business points to do a good job of management, and targeted investment of resources, the market is the guidance, and technology is the support.

(3) According to the capabilities of the company, timely develop or acquire new products with great potential to improve and expand the company's product capabilities.

#### 6.3 Product Strategy Selection

According to the characteristics of the product market and our advantages, we will mainly implement the following product competition strategy:

(1) Constantly improve the price and technology of high value-added products, monitoring costs.

(2) Strict product quality inspection, to control the quality control.

#### 6.4 Marketing Planning

##### 6.4.1 Channel is the king

Channel is the key to the success of the company's market. The company will continue to supplement, improve, and develop appropriate channels based on the development stage of the company.

(1) Both Juice and fruit wine products will be mainly sold in China, by contrast, pectin and polyphenols products will appropriately expand foreign sales channels.

(2) Through the traditional sales model and taking large and medium-sized supermarkets as the largest target customers.

(3) Cooperate with large catering chain companies to seek fresh squeezed and functional fashion products.

(4) Cooperate with agents to expand various sales channels and expand the sales network.

(5) Actively develop the brand strategy, take the geographical advantages of Yan'an as the breakthrough point, and focus on the old base area and the red concept.

The company plans to expand into a variety of sales channels within three years to cover all major biodiesel demand regions.

#### 6.4.2 Implement efficient publicity

Actively strive for approved projects in the state, to win policy support, and based on the fruit economy and rural economy characteristics, with the help of television stations, radio stations, and industry print media for regular or irregular publicity.

Cooperate with agents to drive market sales and promotion in the surrounding areas.

#### 6.4.3 Make full use of low-cost Internet marketing means

Internet marketing has become one of the mainstream marketing methods. The company will establish excellent website content based on the network publicity further do the following things:

(1) Publicity and marketing in short video live delivery platforms such as TikTok, Kuaishou, video number and Bilibili

(2) Promote real-name names and keywords on Baidu, Weibo, Tencent and another search or portal websites.

(3) Establish online live broadcast sales, direct sale stores, and exclusive stores on Pinduoduo, Alibaba and other national enterprises and product online marketing platforms to realize online marketing.

#### 6.4.5 price strategy

Makes full use of apple resources, with low production cost, less equipment investment, high nutritional value. Therefore, adopt a competitive price strategy, the lower price, and foreign similar products to form a competitive advantage. Price strategy is a feasible and very effective competitive strategy for most consumers

## SECTION 8 PRODUCTION AND OPERATION PLAN

### 8.1 Product plan

This project can achieve the annual processing of 200,000 tons of apples, mainly using low-temperature cold chain processing technology to produce sparkling apple clear juice, NFC apple fermented juice, apple cider, apple ice wine, leisure function food, food-grade apple pectin and apple polyphenols, etc.

## SECTION 10 OVERALL SCHEDULE SECTION

### 10.1 Overall Plan of project construction

The project covers an area of 72,304 square meters, with 24 structures, including the complex building, warehouse, R & D center, experience center, power and sewage treatment and other public works. In the first phase, the sparkling clear juice, cider workshop and utility works are built. In the second phase, the NFC turbidity juice line, apple ice wine, apple brandy line and pectin workshop; in the third phase, the NFC fermentation juice line, polyphenols workshop, fruit residue fermentation high-value products, R & D center and leisure function food display and experience center are built.

### 11.1 Conclusion of financial evaluation

From the " summary table of major economic indicators, the internal rate of return on all investment (after income tax) in the report was 22.83%, which is higher than the industry average benchmark value (13%). Under the leverage of borrowed funds, the internal report include internal rate of return (after income tax) each 18.23%. The above financial analysis shows that the project has good market prospects, good economic benefits, and anti-risk ability.

### 11.2 Financing method to be adopted for the Project

#### 11.2.1 Strategic investment mode

This project has advanced technology with independent intellectual property rights, strong replication and expansibility, which is suitable for venture capital intervention. The preliminary proposed cooperation methods are as follows:

- (1) Company establishment: establish a secondary company with Company A or a tertiary company.
- (2) Cooperation mode: the controlling party holds 51% of the shares, and the shareholding party holds 49%.
- (3) Composition of management personnel: the holding party shall nominate the chairman and the chief financial officer; the shareholder shall nominate the general manager and the supervisor.
- (4) Management mode: The joint venture company hire professional managers to conduct production and operation management.

#### 11.2.2 Investment and exit plan

Plan 1: Investors directly transfer interests to a third party (existing shareholders have the priority right to transfer) to realize exit. Specific matters can be agreed upon by agreement.

Plan 2: After the company is listed, the investors can exit through the secondary market.

Plan 3: The investors shall dissolve the enterprise in advance through negotiation.

After liquidation, the net equity of the company shall be distributed according to the equity proportion of the interests agreed in the cooperation agreement, to realize the early exit.

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