

Current Status and Countermeasures of High Quality Grain Industry in Hua County

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Abstract: *The high-quality development of the grain industry is a solid foundation for ensuring national food security and comprehensively promoting rural revitalization. The grain industry in Hua County presents the trend of the steady improvement of the comprehensive grain production capacity, the enhancement of the grain processing capacity, the continuous improvement of the level of agricultural mechanization, and the rapid development of the modern seed industry. At the same time, there are also problems such as low grain production efficiency, low degree of grain branding, and low degree of "three-chain isomorphism" in grain industry. In view of the above problems, the countermeasures are mainly proposed from the aspects of farmland infrastructure construction, modern seed industry and agricultural technology service, farmers' interest compensation mechanism, branding and scientific and technological innovation, in order to solve the current prominent contradiction in grain production and provide reference for promoting the high-quality development of grain industry in Hua County.*

Keywords: Food industry, High-quality development, Status, Huaxian County.

1. Introduction

The grain industry is a basic and strategic industry of the national economy. Accelerating the high-quality development of the grain industry is a solid foundation for ensuring national food security and comprehensively promoting rural revitalization, an important support for expanding domestic demand and building a new pattern of development, and an inevitable requirement for meeting the people's ever-growing needs for a better life. As the first major grain producing county in Henan province and the advanced county in grain production in China, Hua County is in a critical period of optimizing the industrial structure and transforming the development mode. Promote slide grain industry transformation and upgrading of high quality, deepening the reform of agricultural supply side structural, by pay attention to production to yield, quality, efficiency, food processing to food processing, consumption lead to lead the transformation and upgrading of consumption, to ensure stable supply of food production, is slide from agricultural county into agricultural county inevitable choice. Through investigation and analysis, the current situation of grain industry in Hua County is summarized, and the existing problems are analyzed. On this basis, combined with the actual problems in Hua County, the suggestions suitable for the development of grain industry in Hua County are put forward, in order to further optimize the development of grain industry.

2. Hua County Grain Industry is Facing the Situation

2.1 Grain Output and Area have Gradually Stabilized

Hua County is the first grain producing county in Henan Province, strictly implementing the strategy of "grain storage in land and grain storage in technology". In 2022, the county's grain planting area of 3.1061 million mu, with a total output value of 1.5389 million tons, including wheat sowing area of 1.812 million mu, corn sowing area of 1.2776 million mu, potato sowing area of 99 million mu. The total grain output has been stable at more than 3 billion jin, and 1.45 million mu

of high-standard farmland has been built, successfully creating the largest demonstration area of 500,000 mu in Henan Province. The total grain output has ranked first in the province for more than 30 consecutive years, and won the national grain production advanced county model for 12 consecutive years. The county's high-quality wheat planting area of 1.8 million mu, an annual output of more than 900,000 tons of wheat, is the first wheat county in China. In the grain area is basically stable, it has found a way to increase grain production capacity to stabilize grain output. In recent years, Hua County has always taken the improvement of comprehensive grain production capacity as the primary task of developing county economy. While carrying the responsibility of ensuring food security, it has accelerated the integration of primary, secondary and tertiary industries, continued to stimulate the vitality of county economy, and driven the high-quality development of county economy with high-quality development of agriculture. Hua County focuses on promoting agricultural planting, through the "four grasp and four enhancement", the solid promotion of agricultural supply-side structural reform, and constantly create a new situation for the development of strong agricultural counties.

2.2 Grain-based Processing Capacity has Been Enhanced

Grain processing capacity is an important indicator of the development degree of grain industry. By the end of 2022, Hua County has cultivated 216 leading enterprises of agricultural industrialization, including 12 key leading enterprises of agricultural industrialization above provincial level and 1 national leading enterprise of agricultural industrialization. The total number of registered family farms in Hua County has reached 1263, among which 3 are among the demonstration family farms above the provincial level, and the total number of cooperatives reaches 3834, including 7 state-level demonstration cooperatives and 16 provincial demonstration cooperatives. In addition, it has also cultivated 7 large-scale flour processing enterprises, and successfully established a national green food raw material (wheat) standardized production base of 367,000 mu. Through the leading enterprises, the grain processing industry in Hua County has stepped up to a new level.

2.3 Agricultural Mechanization Level is Raised Ceaselessly, the Modern Seed Industry Develops Rapidly

By the end of 2022, the total power of agricultural mechanization in Hua County was 2.14871 million kilowatts, the comprehensive mechanization level of tillage, planting and harvesting of major grain crops reached 96.55%, and the yield of wheat and corn reached 99%. Farming, planting and harvesting have been basically mechanized, and the degree of agricultural mechanization has been continuously improved, providing a strong material and equipment support for the development of the grain industry. Through policy subsidies, discount loans, project tilt measures, slide county increasing support for modern seed industry, as an important wheat seed base, wheat seed area of 430000 mu, numerous seed yield 240 million kilograms, in addition to meet the local supply, exported to more than 800 counties and cities, is a national seed county, regional wheat breeding base county, the national famous wheat seeds out of the county. At present, the county seed certification enterprises 26, relying on the national seed production county award fund project, Hua County and China seed group cooperation, will focus on building intelligent seed industry processing park.

3. Hua County Grain Industry Development Existing Problems

3.1 Grain Production Efficiency is Too Low

Wheat, corn, peanuts, sweet potato in slide county has a large planting scale, but wheat, corn planting in driving the farmers' income is not obvious, at the same time, seeds, pesticides, fertilizers and other agricultural production materials prices rising, agricultural labor costs continue to increase, the grain purchase price increase is flat, these factors lead to high food production costs, to some extent affect the farmers' grain enthusiasm. In order to reduce the impact of the rising price of agricultural materials on grain farmers and ensure the income of grain production, the state has introduced policies such as "direct grain subsidies" and "superior seed subsidies", and grain income has continued to grow, but compared with other agricultural cash crops and animal husbandry, the per mu output value of the grain industry is still low. In addition, as a major grain producing areas, agricultural income potential basic limit in improving food quality and expanding the scale of operation, rely on grain is difficult to achieve rapid growth of farmers' income, so farmers must look for income channels outside grain, slide county perennial migrant workers four hundred thousand, food planting object for "sick", the lack of certain professional knowledge and technology, and the rapid development of agricultural market phenomenon, lead to the food industry efficiency is not high.

3.2 Grain Branding Degree is Not High

In recent years, the county support grain brand, successfully create a batch of brand with a certain scale, such as raw flour, slippery seed industry, yongda food, etc., but the overall brand awareness is relatively low, the government's overall planning is insufficient, food brand marketing system is not sound, across the country, the food brand awareness and market share still has room to improve, need to strengthen market development and promotion, looking for a wider range of

sales channels, improve grain brand market coverage. Differentiation is the core of the brand strategy, but as the promotion of high quality varieties, planting technology is constantly copied, major grain production of food products have gradually present convergence, even if significant difference "star", will be in a short time by other areas, homogeneity competition is food brand market characteristics, is also the slide county in need of the key breakthrough.

3.3 Grain Industry "Three-chain Isomorphism" Degree is Low

At present, the "three-chain isomorphism" system of industrial chain, value chain and supply chain of grain industry in Hua County is not mature [1], which needs to be further improved and improved. From the point of industrial chain, staple food industrialization and grain and oil processing has made some progress, but in backward processing link extension industry chain still need to strengthen, industrial chain of the coordinated development of upstream and downstream links has not yet fully realized, between each link of information, unequal allocation of resources, affect the coordinated operation of the whole food industry chain. From the perspective of the value chain and the supply chain, the value chain mainly reflects the value creation and distribution of the industrial chain and the supply chain, and the supply chain emphasizes the chain formed by the market subjects due to the relationship between supply and demand. Now slide county in wheat, corn and other bulk grain and oil products have accumulated a certain industrial advantage, but in the integration of the industrial chain, has not yet give full play to the potential of driving value chain and supply chain upgrading, low value-added industrial chain processing and production link, in prenatal research and development and postpartum deep processing link upgrade large promotion space. In addition, the grain industry lacks a scientific and reasonable coordinated development mechanism of the grain industry, which leads to poor grain circulation and the increase of raw materials, logistics and transportation costs, thus reducing economic benefits.

4. Some Thoughts on the Development of Modern Agriculture in Hua County

4.1 Steady Progress Will be Made in Developing Farmland Infrastructure

We will further implement the strategy of storing grain on the ground and using technology. [2]. First, we should take advantage of the opportunity of the new round of farmland infrastructure construction, actively apply for high-standard farmland construction projects, increase special funds, and continue to promote the construction of high-standard farmland. By 2025, 1.55 million mu of high-standard farmland will be contiguous, drought and flood conservation, water saving and high efficiency, stable and high yield. Second, the planning and construction of diversion source irrigation area, people's victory canal NiuTun fill source irrigation area, mulberry village diversion irrigation area, at the same time promote the south diversion storage engineering, build Wells, irrigation, ditch, canal layout scientific and reasonable irrigation system of water conservancy projects, outstanding water-saving agricultural technology application, further

improve the irrigation and water conservancy infrastructure conditions, strict protection of farmland infrastructure, clear responsibility main body of the management.

4.2 We Will Vigorously Develop the Modern Seed Industry and Agricultural Technology Services

Continue to promote good varieties, county, township, village level 3 demonstration, with the help of "slippery abundant seed industry" seed leading enterprises, establish breeding numerous push integration and supply dragon promotion system, and Henan province of Henan academy of agricultural sciences, Henan agricultural university research platform to establish solid relations of cooperation, relying on food professional planting cooperatives and family farm operators, new varieties production experiment, the construction of seed information database at the same time, using digital technology, the Internet of things, pest monitoring agricultural information platform, accelerate the cultivation of high quality and high yield of crop varieties. In order to realize the network of agricultural technology service, we should build the three levels of agricultural technology extension service network of county, township and village, and improve the new mechanism [3] of "county has agricultural technology center- township has agricultural technology extension regional station- village has agricultural technology liaison officer" [3]. We will work hard to promote grain production, consolidate the foundation, stabilize the area, increase production capacity, and ensure supply, resolutely shoulder the political responsibility for stabilizing food security, and strive to promote high-quality development of the grain industry.

4.3 We Will Improve the Mechanism for Compensating Grain Farmers for Their Interests

Professional grain production cooperatives and family farms have gradually become important subjects in providing commodity food, Is a focus of ensuring national food security, Through the implementation of differentiated policies, To end grain subsidies to cooperatives and family farms, And give priority to the purchase of agricultural machinery and tools subsidies, Increase subsidies for land transfer for large-scale operators, To guide cooperatives and leading enterprises to provide agricultural materials such as improved varieties free of charge, By establishing a long-term and stable interest connection between farmers, cooperatives and leading enterprises, Vigorously develop grain order planting, The enterprise buys at the reserve price, Ensuring farmers' income, To achieve "leading enterprises + collective economic organizations + cooperatives + farmers" multi-win-win [4]. On this basis, the promotion and application of leading varieties should be accelerated, and unified seed supply, unified field management, unified harvesting and unified enterprise price purchase should be realized through village-level cooperatives, so as to achieve the goals of increasing farmers' income, profitable cooperatives and developing enterprises.

4.4 Adhere to the Brand Development

Establish the development concept of "quality agriculture, brand agriculture", accelerate the construction of standardization, quality, brand of agricultural products [5]. One is to rely on rich wheat, corn, peanuts and other grain and oil resources, promote the deep processing of agricultural products industry, extend the development of flour products, baking products, refined edible oil, leisure food, and other fields, promote the high-end and brand development, improve the added value of agricultural products, build important flour products production and processing base. Second, we should actively carry out the application and certification of national geographical indication products, green food products and organic food products, and guide grain product processing enterprises to implement brand strategies. At the same time, seize the opportunity of digital and information development, relying on the e-commerce platform, establish multi-dimensional brand marketing mode, create more high-quality brands such as Lifeng flour and Yongda food, realize the improvement of economic benefits and social benefits, polish the golden signboard of Hua grain and oil, and constantly improve the added value and market competitiveness of grain and oil products.

4.5 Adhere to the "Three-chain Isomorphism"

Based on the foundation and advantages of grain planting, we will extend the grain industry chain, upgrade the value chain, build the "three-chain isomorphism" [6] of the supply chain, and gradually form an integrated development pattern of "grain production, supply and marketing". First, we should extend the industrial chain in all directions. Through staple food industrialization and grain and oil deep processing, promote the primary processing, deep processing, staple food processing, comprehensive utilization of agricultural and sideline products and other key areas of sustainable development, backward processing link extension industry chain, strengthen before and after the contact, expand the value-added areas of food, focus on the development of grain processing industry chain, intensify investment promotion and capital introduction, promote grain and other bulk agricultural products processing in situ. Second, we need to continue to upgrade the value chain to maintain and increase the value of grain production. We will expand new markets through order agriculture, continue to put grain processing in the key link of upgrading the value chain, guide enterprises to produce and develop safe, high-quality, green and ecological food products, constantly improve the processing and value-added capacity of enterprises, promote the recycling of resources, and promote grain to the middle and high end of the value chain. Third, we should pay attention to logistics distribution and product sales, optimize the supply chain, and accelerate the efficient grain circulation. We should strengthen the grain purchase and storage guarantee system, give full play to the role of grain logistics enterprises reservoir, and build a regional grain logistics center serving surrounding provinces and cities [7]. We will expand the grain circulation network system, encourage local grain and oil enterprises to establish grain purchasing points and processing plants, and cooperate with large grain enterprises at home and abroad to gradually form a new pattern of cooperation integrating production, purchase and sale.

4.6 We Will Improve Our Capacity for Scientific and

Technological Innovation

The transformation of scientific and technological achievements is the key link of the transformation of scientific and technological knowledge into real productive forces, so it is necessary to give full play to the multiplier effect of the joint research of grain scientific and technological innovation institutions and enterprises, effectively shorten the path of the transformation of grain scientific and technological achievements, and gradually realize the popularization and application of technology [8]. First, we will further increase financial support and actively support agricultural enterprises in conducting technical cooperation with scientific research centers and universities, so as to improve their independent research and development capacity and their ability to transform scientific research achievements. Second, we will intensify promotion efforts to further improve the coverage of superior varieties, adhere to the principles of supporting better varieties and methods, integrating agronomy and agricultural machinery, and increasing industrial production capacity, and guide farmers to actively apply fine varieties. Therefore, we can establish a perfect "online + offline" agricultural technology extension service system, hire agricultural experts to set up a service team, carry out the "100 science and technology personnel package thousand villages" activity, and set up county, township and village "experts + agricultural technology personnel + science and technology demonstration households" three-level agricultural technology extension service team. Third, make full use of Internet technology, through the application of soil testing formula fertilization, seedling situation and moisture real-time remote monitoring system, to provide agricultural prenatal, production, post-process "nanny-mode" services. Fourth, the establishment of the county agricultural machinery information service center, timely release of machinery demand and operation information, scientific and orderly scheduling of agricultural machinery cross-district operations, to realize the crop farming from the heaven and earth to "look at the screen".

In short, we should fully understand the significance of accelerating the high-quality development of the grain industry, aim to build a strong county in the grain industry, focus on the national food security strategy and rural revitalization strategy, strengthen coordination and cooperation according to the division of responsibilities, and accelerate the transformation of Hua County from a large county with grain resources to a strong county in the grain industry.

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