ISSN 2616-5902 Vol. 7, Issue 4: 139-148, DOI: 10.25236/AJBM.2025.070417

Fluctuation in Annual Production of Livestock Breeding under Digital Technology: A Case Study of the Meat Pigeon Farming in Jiangmei Village

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Abstract: *Against the backdrop of rapid digital economy development, the agricultural sector is undergoing a revolution in digital transformation. Located in Guangning County, Zhaoqing City, Guangdong Province, Jiangmei Village's meat pigeon farming industry, as a crucial local pillar industry, has achieved remarkable results in recent years through the introduction of digital technologies. These advancements have significantly improved meat pigeon farming production and market competitiveness in terms of farming models, sales channels, and industrial integration. This paper focuses on meat pigeon farming in Jiangmei Village, exploring how digital technologies provide new impetus for the industry's development. Through field research, systematic analysis, and other methods, it analyzes the current status, challenges faced, and digital technology application cases in Jiangmei Village's meat pigeon farming industry. It summarizes specific strategies for digital technologies in boosting meat pigeon farming production, extending the industrial chain, and shaping brand images, providing a reference for meat pigeon industry development in other regions.*

Keywords: *Digital technology; meat pigeon farming; Jiangmei Village; production enhancement; industrial integration*

1. Introduction

With the rapid development of the digital economy, the agricultural sector is experiencing a revolution in digital transformation. The brand value and market competitiveness of agricultural products are increasingly enhanced by digitalization. Jiangmei Village, located in Guangning County, Zhaoqing City, Guangdong Province, is within the radiation range of the Pearl River Delta economic zone, enjoying convenient transportation conducive to the transportation and sales of meat pigeon products. In recent years, Jiangmei Village has promoted local economic development by introducing industrial projects such as pigeon farming, loach farming, and orchid cultivation. In particular, meat pigeon farming has become a significant pillar industry in Jiangmei Village. However, with intensifying market competition and upgrading consumer demand, Jiangmei Village's meat pigeon farming industry faces challenges such as improving farming efficiency, enhancing product quality, and expanding sales channels. The introduction of digital technologies presents an opportunity for the transformation and upgrading of Jiangmei Village's meat pigeon farming industry.

2. Analysis of the Current Status of Meat Pigeon Farming in Jiangmei Village

2.1. Development of Meat Pigeon Farming Industry in Jiangmei Village

2.1.1. Farming Geographical Environment

Meat pigeons are cold-resistant birds that can live normally even at -20℃, but egg laying, hatching, and nurturing of squabs require a climate above 10℃[1,2]. Considering the development of the meat pigeon industry in Guangdong, there is immense potential for growth[3]. Guangning County's Jiangmei Village, located in the north-central part of Zhaoqing, features typical Lingnan hilly terrain with a mild and humid climate, an annual average temperature of 21.5℃, and annual precipitation of 1800mm, making it highly suitable for meat pigeon farming. The village's meat pigeon farming began in the late

ISSN 2616-5902 Vol. 7, Issue 4: 139-148, DOI: 10.25236/AJBM.2025.070417

1990s and has developed into a "One Village, One Product" demonstration village in Guangning County after over 20 years. As of the end of 2023, the village had a total stock of 150,000 pairs of breeding pigeons, an annual production of 1.8 million squabs, and an annual output value of 54 million yuan, accounting for 65% of the village's total agricultural output value.

2.1.2. Farming Scale

Jiangmei Village has established multiple meat pigeon farming bases, forming an integrated industry chain model encompassing farming, processing, and sales. Currently, Jiangmei Village's meat pigeon farming bases have begun to take shape, with the New Pilot Meat Pigeon Industrial Park as a key farming project supported by the government. The park has an annual meat pigeon production capacity of up to 100 million and comprises an organic feed mill, farm, and automated slaughterhouse. It plans to continue expanding within the next five years, increasing meat pigeon farming scale, recruiting more workers, and building a cooked food processing plant to form a closed-loop industrial chain. Upon completion, the park will become the largest meat pigeon farming and processing center in China, leading the transformation and upgrading of the country's poultry industry and stimulating economic growth and labor employment in Guangning County.

2.1.3. Breed Resources

Jiangmei Village's meat pigeon farming bases focus on the introduction and optimization of breed resources, improving meat pigeon growth rates and meat production through the selection of superior breeding pigeons. Additionally, the bases actively explore the research and promotion of new breeds to meet market demands for diversified meat pigeon products.

2.1.4. Sales Channels

Jiangmei Village's meat pigeon sales channels are diversified, encompassing traditional offline channels such as farmers' markets, hotels, and restaurants, as well as online channels like e-commerce platforms and live streaming. In particular, the rise of e-commerce platforms has provided a new growth point for Jiangmei Village's meat pigeon sales. By building its own brand, Jiangmei Village's meat pigeons have established a good reputation in the market, enhancing product added value and market competitiveness.

2.1.5. Linking Farmers and Promoting Agriculture

Jiangmei Village's meat pigeon farming bases have enhanced brand awareness and reputation through activities such as holding meat pigeon cultural festivals and participating in various agricultural product exhibitions. Additionally, by deeply integrating the meat pigeon industry with red tourism, Jiangmei Village has not only realized the transformation from "blood transfusion" to "blood creation" but also provided a replicable "pigeon-tourism-agriculture" tertiary industry linkage model for the revitalization of revolutionary old areas, creating a batch of meat pigeon cultural tourism projects with local characteristics, and enriching the connotation and extension of the meat pigeon industry[4].

2.1.6. Brand Building

Jiangmei Village's meat pigeon farming bases have enhanced brand awareness and reputation through activities such as holding meat pigeon cultural festivals and participating in various agricultural product exhibitions. Additionally, by deeply integrating the meat pigeon industry with red tourism, Jiangmei Village has not only realized the transformation from "blood transfusion" to "blood creation" but also provided a replicable "pigeon-tourism-agriculture" tertiary industry linkage model for the revitalization of revolutionary old areas, creating a batch of meat pigeon cultural tourism projects with local characteristics, and enriching the connotation and extension of the meat pigeon industry.

2.2. Digital Status of Meat Pigeon Farming in Jiangmei Village

2.2.1. Application of Smart Farming Systems

Jiangmei Village's meat pigeon farming bases have introduced smart farming systems, utilizing sensors, audio, video surveillance, wireless transmission, and remote wireless technologies to collect real-time environmental information in farming fields, including temperature, humidity, gas content, noise, dust, and the growth status of meat pigeons. Based on the collected data, the system automatically adjusts the farming environment, such as starting fans to reduce temperature and humidity, opening ventilation equipment for air exchange, and installing deodorization equipment for regular manure scraping and deodorization, improving air quality in farming fields. Meanwhile, the system realizes

ISSN 2616-5902 Vol. 7, Issue 4: 139-148, DOI: 10.25236/AJBM.2025.070417

precise feeding and disease early warning functions for meat pigeons, enhancing farming efficiency and product quality.

2.2.2. Development of E-commerce Platforms

Jiangmei Village's meat pigeon farming bases actively expand e-commerce platform sales channels, entering mainstream e-commerce platforms such as Douyin and JD.com, and conducting live streaming sales activities, which improve sales efficiency and brand awareness. The bases have also developed meat pigeon sales management software, realizing full-link control from production to sales, including inventory management, order processing, customer management, etc. The software supports scanning codes to view key information such as batch vaccine injection records and feed ratios, ensuring the transparency and traceability of the farming process.

2.2.3. Construction of Traceability Systems

Jiangmei Village's meat pigeon farming bases have established a comprehensive traceability system, generating unique traceability codes for each batch of meat pigeon products through one-product-one-code technology, recording the entire production process traceability information. Consumers can scan the traceability code to obtain complete traceability information, including the meat pigeon's origin, farming process, quality inspection, etc., ensuring product quality and safety.

2.2.4. Application of Big Data Platforms

Jiangmei Village's meat pigeon farming bases utilize big data technology for market analysis and sales forecasting, helping enterprises make more scientific decisions. The bases have also developed big data display platforms integrating data collection, categorical statistics, analysis processing, and data presentation, enabling managers to grasp the industrial park's operation status and realizing functions such as precise production control, remote equipment control, and scientific farming decision-making.

2.3. Issues in The Digital Development of Meat Pigeon Farming in Jiangmei Village

2.3.1. Insufficient Depth of Digital Technology Application

Although Jiangmei Village's meat pigeon farming bases have introduced digital technologies such as smart farming systems, e-commerce platforms, traceability systems, and big data platforms, the depth of application still needs to be enhanced. For example, the smart farming system is currently primarily applied to environmental monitoring and disease early warning, with considerable room for improvement in areas such as meat pigeon growth model construction and precise feeding algorithm optimization.

2.3.2. Shortage of Digital Talent

With the continuous development of digital technologies, Jiangmei Village's meat pigeon farming bases are increasingly in need of digital talent. However, the local area is relatively deficient in professionals in fields such as e-commerce, marketing, strategic planning, and integrated management, especially those who understand both meat pigeon farming and digital operations.

2.3.3. Infrastructure Needs Improvement

Although Jiangmei Village's meat pigeon farming bases have made some progress in digital infrastructure construction, there is still a significant gap compared to developed regions. In particular, there are bottlenecks in information technology and transportation logistics, affecting the further application of digital technologies and the high-quality development of the industry.

2.3.4. Brand Awareness and Market Recognition Need Improvement

Jiangmei Village's meat pigeon farming bases have established a certain reputation in the market by building their own brands and enhancing product quality. However, compared with domestic and international well-known brands, the awareness and market recognition of Jiangmei Village's meat pigeon brand still need to be improved. This limits the product's sales channels and market competitiveness to a certain extent.

2.4. Digital Application Cases of Meat Pigeon Farming in Other Regions

2.4.1. Xingning Meat Pigeon Industrial Park

The Xingning Meat Pigeon Industrial Park is the largest meat pigeon farming, processing, circulation, and distribution hub in Guangdong Province, and it is also a provincial-level modern industrial park and

ISSN 2616-5902 Vol. 7, Issue 4: 139-148, DOI: 10.25236/AJBM.2025.070417

agricultural science and technology park. To solve issues in the farming process, with the support of new technologies such as 5G, big data, and the Internet of Things from Guangdong Mobile, Meizhou Jinlv Modern Agriculture Development Co., Ltd. has developed a big data display platform, realizing real-time scene monitoring and automated management of the meat pigeon farming process. Consumers can adopt meat pigeons within farms through the Adopt-a-Pigeon Mall mini-program, increasing sales channels and revenue sources. The industrial park has also accessed data from public services, related business departments, and other informatization platforms, achieving broader data sharing and docking[5].

2.4.2. Shanghai Meat Pigeon Industry

Shanghai's meat pigeon industrial technology system has successfully created a mechanical meat pigeon farming technology integration application scenario pigeon coop, significantly reducing labor intensity and improving production efficiency. In terms of sales models, Shanghai's meat pigeon industry has transformed from traditional offline sales to parallel online sales and offline experiences, with mainstream e-commerce platforms such as Hema Xiansheng and Dingdong selling Shanghai's locally produced meat pigeon products[6]. Additionally, Shanghai's meat pigeon industry has strengthened the formulation and implementation of technical schemes for self-retained breeding pigeon populations, enhancing the overall level of breeding pigeons, and developed new products such as sauce pigeons and crispy squabs, increasing product added value.

2.4.3. Summary

Jiangmei Village's meat pigeon farming industry has achieved remarkable results in digital application but also faces some issues. By comparing and analyzing the digital application cases of Xingning Meat Pigeon Industrial Park and Shanghai's meat pigeon industry, it can be seen that Jiangmei Village already has a certain foundation in areas such as smart farming system application, e-commerce platform development, traceability system construction, and big data platform application. However, there is still room for improvement in the depth of digital technology application, digital talent reserves, infrastructure improvement, brand awareness, and market recognition. Therefore, Jiangmei Village should further increase the application of digital technologies, strengthen the cultivation and introduction of digital talent, improve infrastructure, enhance brand awareness and market recognition, and promote the high-quality development of the meat pigeon industry.

3. Data Analysis

As the development of the pigeon breeding industry in Jiangmei Village was relatively slow, further analysis of this industry was conducted by integrating digital technology, and canonical correlation analysis was employed to sort out and analyze the data obtained from the survey on the pigeon breeding industry in Jiangmei Village.

3.1. Determination of Sample Size

In the actual survey, a total of 111 questionnaires were distributed, with 106 valid responses, yielding a response rate of 95%, indicating high effectiveness.

3.1.1. Descriptive Statistical Analysis

From Table 1, regarding the use of digital technologies (0 represents no, 1 represents yes), 8 households did not use digital technologies, accounting for 7.5% of the total; 98 households used digital technologies, accounting for 92.5% of the total. This indicates that more farmers use digital technologies in meat pigeon farming than those who do not.

Table 1:The frequency of digital technology use

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	0	8	7.5	7.5	7.5
	1	98	92.5	92.5	100.0
	Total	106	100.0	100.0	100.0

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In terms of digital technology types (0 represents intelligent monitoring systems, 1 represents automated feeding equipment, 2 represents data analysis and prediction models, 3 represents remote monitoring and management platforms), From Table 2, the most farmers use automated feeding equipment, with 32 households, accounting for 20.8%; followed by remote monitoring and management platforms, with 28 households, accounting for 26.4%; data analysis and prediction models are used by 24 households, accounting for 22.6%; and intelligent monitoring systems are used by 22 households, accounting for 20.8%. These statistics help us understand the basic characteristics of the sample and aid in formulating targeted farming strategies.

Table 2:Types of digital technology

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	0	22	20.8	20.8	20.8
	1	32	30.2	30.2	50.9
	2	24	22.6	22.6	73.6
	3	28	26.4	26.4	100.0
	Total	106	100.0	100.0	100.0

3.2. Reliability Test

Cronbach's Alpha coefficient is used to assess the consistency of the questionnaire or scale, i.e., reliability. The value range of the Alpha coefficient is 0-1, with a higher value indicating better internal consistency of the scale[7]. From Table 3, the results show that Cronbach's Alpha coefficient is 0.769, indicating that the scale has good reliability, and the sample can be used, with high consistency among the various items of the questionnaire.

Table 3:Reliability Statistics

Cronbach's Alpha	Number of Items
.769	8

3.2.1. Validity Test

The KMO sample adequacy measure is used to assess the suitability of data for factor analysis, with a value range of 0-1. A higher value indicates that the data is more suitable for factor analysis. From Table 4, the results show that the KMO value is 0.839, indicating that the data is suitable for factor analysis. The Bartlett's test of sphericity is used to test whether the correlation matrix between variables is an identity matrix. The significance (p-value) is 0.000, less than 0.05, indicating that the null hypothesis is rejected, and there is sufficient correlation between variables, making them suitable for factor analysis.

Table 4: KMO and Bartlett's Test

KMO Measure of Sampling Adequacy		.839
Bartlett's Test of Sphericity	Approx. Chi-Square	242.638
	Degrees of freedom	21
	Significance	.000

From Table 5, from the total variance explained table, it can be seen that there are two components with initial eigenvalues greater than 1, with eigenvalues of 3.420 and 1.151, respectively, accounting for 65.309% of the total variance cumulatively. The variance percentage of the extracted load squares and the rotated load squares are consistent, indicating that the principal components extracted after factor

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analysis are stable and can effectively explain the relationships between variables.

Table 5:Total Variance Explained

Components	Initial Eigenvalues			Extracted Sums of Squared Loadings			Rotated Sums of Squared Loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	3.420	48.861	48.861	3.420	48.861	48.861	3.317	47.379	47.379
2	1.151	16.448	65.309	1.151	16.448	65.309	1.255	17.930	65.309
3	.678	9.688	74.997						
4	.539	7.705	82.703						
5	.450	6.428	89.130						
6	.429	6.123	95.253						
7	.332	4.747	100.000						

Extraction Method: Principal Component Analysis.

3.2.2. Correlation Test

From Table 6, the correlation test table shows significant correlations between the fluctuation in annual production volume and the use of digital technology, technology type, and technological barriers. The Pearson correlation coefficient between annual production volume and technology type is the highest at 0.584, with a significance level of 0.000, indicating a strong positive correlation between the two.

Table 6:Correlations

		Annual Production Volume Fluctuation	Whether digital technology is utilized	Type of technology	Technical obstacles
Annual Production Volume Fluctuation	Pearson Correlation	1	-.051	.584**	.563**
	Significance (2-tailed)		.601	.000	.000
	N	106	106	106	106
Use of Digital Technology	Pearson Correlation	-.051	1	-.053	-.254**
	Significance (2-tailed)	.601		.589	.009
	N	106	106	106	106
Technology Type	Pearson Correlation	.584**	-.053	1	.514**
	Significance (2-tailed)	.000	.589		.000
	N	106	106	106	106
Technological Barriers	Pearson Correlation	.563**	-.254**	.514**	1
	Significance (2-tailed)	.000	.009	.000	
	N	106	106	106	106

**. Correlation is significant at the 0.01 level (2-tailed).

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3.3. Linear Regression

From Table 7, the linear regression analysis results indicate that the model's adjusted R-squared value is 0.329, meaning the model can explain 32.9% of the variation in purchasing decision changes. The F-value of the regression equation is 26.769, with a significance level of 0.000***, indicating significance and rejecting the null hypothesis that the regression coefficients are zero. This suggests a regression relationship exists among the variables.

Table 7:Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584	.342	.335	1.257

For variable collinearity, from Table 8, the VIF is 1, indicating no multicollinearity issues in the model, which is well-constructed. The model formula is as follows:

$Y = 0.578 + 0.822X$

Where Y is the annual production volume fluctuation of meat pigeons after applying different digital technologies, and X is the digital technology used for meat pigeon farming.

Table 8:Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Significance	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.578	.212		2.728	.007		
	Technology Type	.822	.112	.584	7.346	.000	1.000	1.000

The model is overall significant, and the independent variable has a significant predictive power on the dependent variable. Farmers using digital technologies for meat pigeon farming are more likely to achieve increased production through these technologies, and this impact is significant. Therefore, it can be concluded that the use of digital technologies for meat pigeon farming is a key factor affecting the annual production volume fluctuation of meat pigeons.

4. Policy Recommendations for the Development of Meat Pigeon Farming Industry in Jiangmei Village

4.1. Enhance the Application of Digital Technologies

Jiangmei Village should further enhance the application of digital technologies, promoting the in-depth application of smart farming systems, e-commerce platforms, traceability systems, and big data platforms throughout the meat pigeon farming process. For example, by optimizing algorithms and models of smart farming systems, it improves farming efficiency and product quality; By expanding e-commerce sales channels, it enhances sales efficiency and brand awareness; By improving traceability system functionality and application scope, it ensures product quality and safety; By utilizing big data for market analysis and sales forecasting, it assists enterprises in making more scientific decisions.

4.2. Strengthen Digital Talent Cultivation and Introduction

Jiangmei Village should strengthen the cultivation and introduction of digital talents, optimizing talent structure and strengthening the cultivation system through university-enterprise cooperation, internships, and targeted training. Simultaneously, it actively introduces external digital talents to provide intellectual support for the development of the meat pigeon industry.

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4.3. Improve Infrastructure

Jiangmei Village should increase investment in infrastructure, particularly in information technology and transportation logistics. By improving information technology infrastructure, it enhances the application level and efficiency of digital technologies; By improving transportation logistics infrastructure, it reduces logistics costs and improves efficiency, providing strong support for the transportation and sales of meat pigeon products.

4.4.Enhance Brand Awareness and Market Recognition

Jiangmei Village should continue to strengthen brand building, enhancing brand awareness and reputation through activities such as meat pigeon cultural festivals and participation in agricultural product fairs. Simultaneously, it actively promotes the integration of the meat pigeon industry with tourism and culture, creating characteristic meat pigeon cultural tourism projects, enriching the industry's connotation and extension, and enhancing market recognition.

5. Sustainable Development

5.1. Construct an Eco-Cyclic Farming Model

Jiangmei Village is actively exploring a "meat pigeon-organic fertilizer-planting" trinity circular agriculture system, achieving sustainable development through efficient resource utilization. In pigeon manure resource utilization, the village has established an organic fertilizer processing center with an annual processing capacity of 20,000 tons, converting pigeon manure into high-quality organic fertilizer meeting NY525 standards, applied to 500 acres of tea gardens, improving soil quality and reducing fertilizer use by 40%, achieving significant economic and ecological benefits[8].

5.2. Promote Low-Carbon Farming Technologies

In terms of energy conservation and emission reduction, Jiangmei Village has comprehensively upgraded traditional pigeon houses. By adopting new thermal insulation materials and optimizing ventilation designs, energy consumption in pigeon houses has been reduced by 25%. Additionally, the village has promoted the application of a solar-electric hybrid heating system, which prioritizes solar heating on sunny days and automatically switches to grid power on rainy days, ensuring the stability of the farming environment while reducing energy consumption. Furthermore, some farms have pilot-tested the use of biomass fuels as an alternative to traditional energy sources, further reducing carbon emissions.

To scientifically assess carbon emissions during the farming process, Jiangmei Village has established a full-lifecycle carbon emission model for meat pigeon farming. This model encompasses carbon emission data from various stages including feed production, farming management, and waste treatment. According to model calculations, the current carbon intensity per pigeon is 1.2 kg CO_2e. Through continuous technological improvements and process optimizations, the village plans to reduce this figure to 0.8 kg within the next three years, laying the foundation for low-carbon farming.

5.3. Directions for Technological Innovation

5.3.1. In-depth Application of Intelligence

Jiangmei Village is developing the next generation of farming robots that integrate multiple functions such as automatic inspection, precise feeding, and cleaning and disinfection. Currently, the prototype has completed the testing phase and can replace 50% of manual operations in practical applications, significantly reducing labor intensity and production costs. These robots are equipped with advanced sensors and navigation systems, enabling autonomous path planning and real-time monitoring of pigeon flock status for 24-hour uninterrupted operation.

The application of digital twin technology is another important direction for intelligent development. Jiangmei Village is constructing a virtual pigeon house system that achieves real-time simulation and optimization of the production process through digital twin technology. Currently, three demonstration pigeon houses have been connected to this system, allowing managers to simulate different farming scenarios in a virtual environment and predict potential issues, thereby making more scientific decisions. Practice has shown that this technology has increased decision response speed by 40%, effectively

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improving management efficiency.

In terms of breeding technology, Jiangmei Village has deepened cooperation with South China Agricultural University to jointly conduct whole-genome selection breeding research for meat pigeons. This project aims to establish a molecular marker-assisted selection system through genome sequencing and analysis of high-quality breeding pigeons, with the goal of cultivating a new variety with a feed conversion rate of 2.0:1 within five years. This new variety will significantly reduce farming costs and improve economic efficiency, providing genetic resource guarantees for the sustainable development of the industry.

The application of smart contracts has further enhanced the efficiency of industrial operations. Jiangmei Village has introduced blockchain-based smart contracts in some pilot enterprises, which can automatically execute contract terms such as procurement payments and quality compensation. This decentralized execution mechanism has greatly reduced transaction costs, with contract disputes in pilot enterprises decreasing by 80%, providing new ideas for establishing a fairer and more efficient industrial ecosystem.

5.4. Prospects for Industrial Integration and Development

5.4.1. Extension of Deep Processing Industry Chain

In the development of prepared dishes, Jiangmei Village has successfully launched 10 types of pigeon meat prepared dish products, including instant pigeon meat and pigeon soup series. These products have increased added value by 3-5 times through deep processing, with processing output exceeding 20 million yuan in 2023, effectively addressing the issue of limited sales radius for live poultry. In the future, more convenient products that meet modern consumption habits will continue to be developed to further extend the industrial chain.

The development of the biomedical value of pigeon products is another important direction. Jiangmei Village has cooperated with Guangzhou Pharmaceutical Group to jointly research the extraction and application of active substances in pigeon eggs. Preliminary studies have shown that pigeon eggs contain rich immune-active components with the potential for developing health supplements. Currently, both parties are developing a series of products with immune-regulating functions, which will become a new highlight for industrial value-added.

5.4.2. New Models of Cultural and Tourism Integration

To promote industrial diversification, Jiangmei Village has constructed a digital farming exhibition hall and developed farming experience tourism projects. The exhibition hall vividly showcases the history, culture, and modern technology of meat pigeon farming through VR and AR technologies, attracting 12,000 visitors annually. Simultaneously, parent-child research projects have been developed, allowing visitors to personally participate in activities such as feeding pigeons and collecting eggs, which not only popularizes agricultural knowledge but also increases income sources for farms.

The promotion of food culture is also an important aspect of cultural and tourism integration. Jiangmei Village regularly holds the "Guangning Pigeon Cultural Festival" to promote pigeon meat food culture through cooking competitions and food tasting events. At the same time, it has created characteristic catering brands and developed unique local pigeon meat dishes, driving surrounding catering consumption to 5 million yuan and forming an integrated development model of "farming + catering + tourism."

6. Conclusion

As an important pillar industry in the local area, Jiangmei Village's meat pigeon farming industry has achieved remarkable results in farming models, sales channels, and industrial integration in recent years through the introduction of new digital technologies. However, with the intensification of market competition and the upgrading of consumer demands, Jiangmei Village's meat pigeon farming industry still faces some challenges. By implementing strategies such as increasing the application of digital technologies, strengthening the cultivation and introduction of digital talents, improving infrastructure, and enhancing brand awareness and market recognition, Jiangmei Village's meat pigeon farming industry is expected to achieve higher-quality development in the future. Meanwhile, Jiangmei Village's experience also provides valuable references for the development of meat pigeon industries in other regions.

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