

Application of Ecological Planting and Breeding Mode in Guangxi based on Internet Plus

Fei Chen, Dichen Guan

School of Nanning University, Guangxi 530000, China

Abstract: With the arrival of the Internet plus era, various industries are constantly exploring how to use the advantages of Internet plus to improve production efficiency and economic benefits. In the field of agriculture, the ecological planting and breeding model has received increasing attention and promotion in Guangxi due to its environmentally friendly, healthy and safe characteristics. The article will take Internet plus as the background to build a scientific planting and breeding ecological model, discuss the application of the ecological planting and breeding model of "enterprise+ breeding farm+ farmers" in Mashan County, Guangxi, and put forward development suggestions for the challenges facing the model. Strengthening the organic combination of ecological planting and breeding model and Internet technology can further exert its advantages and promote the sustainable development of ecological environment and economy. It is of positive significance for promoting the development of the planting and breeding industry in poverty-stricken areas and carrying out poverty alleviation work.

Keywords: Internet Plus; Ecological breeding; Breeding mode.

1. Overview of Ecological Breeding Models

With the arrival of the Internet plus era and the rapid development of information technology, a variety of digital, intelligent and Internet based products and services are emerging, which has brought huge transformation opportunities to the agricultural industry. The traditional planting and breeding model faces many challenges, and the ecological planting and breeding model under the background of Internet plus has become a new solution, especially for the current plight of the planting and breeding industry of poor rural households, which can achieve more accurate, efficient and sustainable development.

The ecological breeding model is a new breeding model based on natural resources, guided by ecosystem services, fully utilizing natural ecosystems, achieving natural recycling, and vigorously promoting natural and pollution-free healthy food. It not only has broad market prospects, but also meets people's environmental and health needs. The application of ecological planting and breeding mode in the context of Internet plus will be more convenient and efficient. There are two main ways of this model: one is to add livestock and poultry breeding in the planting to form a production chain; The second is to realize waste utilization in breeding, forming a cycle chain.

2. Development in the context of Internet plus

2.1. Online sales of agricultural products

Under the background of Internet +, ecological farming model can directly sell breeding products to customers through its website, WeChat mall, mini program, Taobao store and other channels, so as to create a "pollution-free, natural and healthy" image and attract consumers. At the same time, through data analysis, we can have an in-depth understanding of consumer needs and develop breeding products that are more in line with consumer preferences.

2.2. E-commerce Platform Sales

E-commerce platforms are another channel for promoting aquaculture products. Farmers can supply takeout platforms with healthy and delicious aquaculture products for diners. Through the delivery platform, farmers can seize the market, increase product sales and brand awareness.

2.3. Using Intelligent Devices to Improve Efficiency

Under the background of Internet plus, farmers can monitor the ecological planting and breeding mode through the installation of intelligent devices, so as to understand a series of factors such as poultry conditions, environmental temperature, water quality and so on, so as to carefully manage the planting and breeding process. At the same time, farmers can also remotely control equipment such as water pumps, feed machines, and temperature controllers through intelligent devices, thereby saving human resources.

3. Application of ecological planting and breeding models in Guangxi region

3.1. Background of Mashan County, Guangxi

Guangxi is a region with a large population, developed agriculture and animal husbandry, and also a province with a relatively good ecological environment. Under the background of Internet plus, the ecological planting and breeding model in Guangxi has been widely applied and promoted. The ecological planting and breeding model in Guangxi is a comprehensive agricultural production model that integrates various agricultural formats such as planting, aquaculture, aquaculture, and fruit planting to form an agricultural production chain, achieve resource recycling, and protect the ecological environment.

By introducing intelligent equipment, the chicken farming project has achieved an automated and intelligent feeding process, which not only improves feeding efficiency, but also significantly reduces chicken farming costs and reduces

environmental pollution. At the same time, the local government actively organizes technical training for farmers to enable them to master advanced chicken farming techniques and management methods, and improve their chicken farming quality. The government also provides financial and technical support to local villagers, encourages and guides them to participate in chicken farming projects, and increases their sources of income.

3.2. Analysis of ecological planting and breeding models in Mashan County

The pilot project of Mashan County is a county under the jurisdiction of Nanning City, Guangxi Zhuang Autonomous Region, and is one of the poverty-stricken areas. In order to achieve targeted poverty alleviation, Mashan County has adopted models such as combining planting and breeding, and extending the industrial chain. By developing industries such as characteristic agriculture and animal husbandry, it helps impoverished households increase their income. Mashan County is rich in agricultural resources, with high-quality arable land and lush forest resources. The main crops include rice, vegetables, fruits, tea, etc. The project has designed and constructed a new ecological agriculture mode - "chicken-corn-grain" interactive organic planting and breeding mode, which is suitable for Guangxi Mashan County. The chicken farm uses geographical advantages and Internet plus+Internet of Things technology to achieve intelligent ecological breeding. It operates in the form of "enterprise + farm + farmer", carries out unified breeding through the company, and covers farmers through demonstration farms to drive small-scale farms in the breeding link, Realize the participation of farmers in aquaculture. By adopting a model of self-cultivation by the company and farmhouse farming, and at the same time, purchasing corn and other grains grown by impoverished farmers as chicken feed. Implementing scientific breeding throughout the process, resource recycling, and ensuring antibiotic free, healthy breeding with vaccines as the main ingredient and local Chinese herbal medicine as a supplement has saved most of the breeding costs for impoverished households. Mashan County Intelligent Ecological Chicken Farming is an intelligent chicken farming project targeting rural areas, aimed at improving the efficiency and quality of rural chicken farming by introducing advanced intelligent equipment and scientific chicken management methods, helping villagers increase profits and improve living conditions, and establishing a scientific breeding ecosystem.

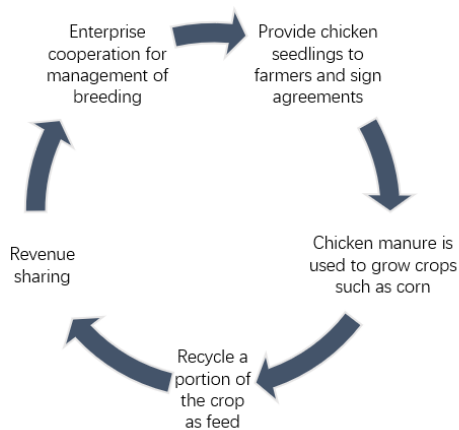


Fig. 1 Ecological model of planting and breeding in Mashan County

From the perspective of the farming mode of poor households under the background of Internet +, this paper studies and analyzes the scientific and technological advantages of the Internet, targeted poverty alleviation policies, modern ecological aquaculture and other aspects. Combined with the existing problems of the poor households in the planting and breeding industry, this paper puts forward the solution of using Internet + technology to carry out precise planting and breeding for the poor households. Specific measures include:

3.2.1. Establish a planting and breeding service platform for targeted poverty alleviation

Internet technology is used to build a planting and breeding service platform for poor households, so as to realize information sharing, precise service, interactive communication, management and monitoring. Through the establishment of an information database of poor households, the platform implements graded and classified poverty alleviation and accurately implements poverty alleviation policies. Scientific and technological consulting services, marketing channel models, logistics and other service modules have been established to promote the development of large-scale and modern farming in poor households.

3.2.2. Promote intelligent breeding technology

Intelligent upgrade of the existing planting and breeding technology, through the application of sensors, machine vision and other technical means to achieve real-time monitoring, automatic regulation, effectively improve production efficiency and quality. At the same time, big data analysis, artificial intelligence and other technologies are used to analyze and forecast information such as product quality and market demand, so as to adjust production layout in advance, effectively reduce production costs and improve the income of poor households. Each chicken in the farm has anklet or pedometer, on the one hand, every time the chicken vaccinates or test is recorded, can be viewed by scanning the bar code, on the other hand, for each chicken steps, the pedometer can feed back the data to the calculation center, when most of the steps above the threshold can be listed.

3.2.3. Improve management capability and quality

With the advantage of Internet plus technology, China has established a standardized and modern breeding management system, provided training and guidance to poor households, improved their management ability and quality, and helped them achieve both quality and efficiency improvement. At the same time, the establishment of food safety traceability system, strict control of product quality and safety, enhance brand image and market competitiveness.

3.2.4. Establish an online sales platform

Complete the establishment of wechat public account and small program, and select Mashan County and several surrounding cities to realize the information release function of agricultural products market. Complete the initial product promotion plan, and select more than 60% of the businesses in the breeding base and surrounding markets to follow and use. The online platform allows breeding bases to publish relevant information and consumers to buy the ingredients they need. Consumers can also observe the product online at any time breeding and distribution progress.

3.3. Problems of ecological breeding model in Mashan County

Although the ecological breeding model in Mashan County

has achieved some results, there are still some deficiencies, which need to be further improved and perfected. Here are some possible problems and ways to improve them:

Environmental standards are difficult to achieve: ecological farming models need to follow high environmental standards, strictly control the use of pesticides and fertilizers in the production process, and adopt recycling measures to reduce the impact on the environment. However, in practice, due to technical and management deficiencies, there are still some production and processing links cannot keep up with the ecological standards, resulting in environmental protection standards are difficult to achieve.

High cost: A large amount of capital needs to be invested to realize the ecological farming mode, including the transformation of the ecological environment, training of management personnel, etc., and the production cost is also high. Due to the poor capital turnover, it is difficult for many poor households to buy breeding equipment or expand the scale.

High requirements for breeding technology: ecological breeding mode requires farmers to have higher technical level and industrial quality. In breeding industry, the application of new technology and new varieties is crucial to improve breeding efficiency and yield.

3.4. Suggestions for the development of ecological planting and breeding models in Guangxi

Combining intelligent ecological chicken farming with cooperative adoption models to achieve the intelligence of chicken farming models and the joint construction of community ecology. In terms of cooperative adoption, chicken farming cooperatives can cooperate with local communities, where community residents raise funds to jointly raise broilers in the farm and negotiate a sharing plan with the cooperative. Community residents can adopt chickens through predetermined methods and participate in the process of raising chickens, fully experiencing the joy of participation and sharing. The combination of intelligent breeding and cooperative adoption models in chicken farming cooperatives can improve chicken farming efficiency, reduce costs, increase profits, and promote community development, guide residents to form a consumption community, and jointly build a shared community.

The in-depth development of the "enterprise + farm + farmer" model can include the following steps: enterprises or companies as the main body, invest or cooperate in agricultural production, processing, sales and other businesses; As grassroots entities, farmers participate in agricultural production and sales activities by joining cooperatives or directly collaborating with companies, increasing their income and sense of gain. In this model, companies and cooperatives play a role in integrating

resources and markets, planning production and sales, establishing unified breeding standards to ensure product quality, helping farmers improve production efficiency and reduce production costs, while also obtaining better market positioning and profit returns. Farmers can participate in industrial production, improve agricultural production levels, increase income and employment opportunities.

4. Summary

The ecological planting and breeding model in Mashan County, Guangxi is a poverty alleviation model with practical significance and social responsibility, which has been well applied and shows broad development prospects. On the one hand, this model has lower initial investment and risk, making it easier for impoverished households to participate and accept, effectively increasing their income, and achieving gradual poverty alleviation towards the market. On the other hand, utilizing the resources of enterprises and governments to form a joint force can improve the development efficiency of the industry. Of course, this model also has some problems and challenges, such as technical and management issues in the breeding process, uncertainty in market demand and sales channels. Overall, this planting and breeding model has positive significance for promoting the development of the planting and breeding industry and poverty alleviation work in poverty-stricken areas. It can be used for reference and extended to other poverty-stricken areas to achieve poverty alleviation and sustainable development of the local economy for impoverished households.

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Computer Communication and Networks +2020SZSFK08.

References

- [1] Wang Xia. Ecological chicken breeding and management technology [J] *Animal Husbandry and Veterinary Science* (Electronic Version), 2022 (16).
- [2] Lei Shifu. Key points of ecological chicken farming technology under the forest [J] *Animal Husbandry and Veterinary Science* (Electronic Version), 2022 (04).
- [3] Liu Jinxiu. Key points of ecological chicken breeding and management technology [J] *Contemporary Livestock and Poultry Breeding Industry*, 2019 (09).
- [4] Chen Wei, Zhou Huaifeng. Preliminary Study on the Cooperative Income Increase Model for Rural Left Behind Elderly in Poor Areas: Taking Rongyan Ecological Breeding Professional Cooperative in Mashan County, Guangxi as an Example [J]. *Southern Rural*, 2016,32 (05).