Scholar Publishing Group
International Journal of Social Sciences and Economic Management
https://doi.org/10.38007/IJSSEM.2025.060117
ISSN 2789-715X Vol. 6, Issue 1: 199-205

Realize the Value of Agricultural Ecological Products and Promote the Management of Food Safety

Yu Hu[1], Chonghui Jiang[2]

[1]*School of Economics and Management, Zhengzhou University of Light Industry, Henan, China*

[2]*School of Economics and Management, Henan University of Engineering, Henan, China*

Keywords: Ecological Agricultural Products; Food Safety; Value Realization

Abstract: The realization of the value of ecological agricultural products serves as a pivotal avenue for transforming "green mountains and clear waters" into "golden mountains and silver mountains." Furthermore, it constitutes a crucial means of fostering the development of green and organic agriculture, thereby enhancing the food safety standards across society. To delve into the issue of realizing the value of ecological agricultural products and augmenting food safety levels, it is imperative to dissect the economic, ecological, and social benefits associated with this realization, with the aim of promoting enhanced food safety standards. Consequently, four key aspects have been summarized: augmenting scientific and technological research and development, establishing regional agricultural product brands, reinforcing the construction of ecological agricultural product trading platforms, and guiding consumer awareness regarding ecological agricultural products. Additionally, the challenges encountered in realizing the value of ecological products in improving food safety levels have been outlined, along with targeted solutions and strategies. This article not only possesses guiding significance for advancing the realization of the value of ecological products in China but also offers effective assistance in elevating the level of food safety.

1. Introduction

In April 2021, the General Office of the CPC Central Committee and the General Office of the State Council issued the "Opinions on Establishing and Improving the Value Realization Mechanism of Ecological Products." The document outlined that by 2025, the institutional framework for realizing the value of ecological products will be largely in place. By 2035, a comprehensive and robust mechanism for realizing the value of ecological products will be fully implemented, leading to the full formation of a new model of ecological civilization construction with Chinese characteristics. This policy serves as an institutional guarantee for the realization of the value of ecological products, reflecting the pressing needs of the state for pertinent research and

practical implementation.

Food safety is a paramount livelihood issue that is intricately linked to public health and well-being, serving as the cornerstone of social stability and economic development.
In recent years, China has continuously fortified its supervision of food safety, leading to a decrease in the occurrence of food safety incidents. Nonetheless, sustained efforts are still imperative to guarantee the safety of food throughout its production, processing, and circulation processes [1].

Agricultural ecological products, as a vital component of ecological products, not only markedly elevate the level of food safety but also generate substantial economic benefits for farmers due to their high added value. By adopting green and organic production methods and minimizing the use of chemical fertilizers and pesticides, these products facilitate the optimization and upgrading of the agricultural industrial structure, thereby providing robust support for rural revitalization [2].

2. Mechanism for Realizing the Value of Agricultural Ecological Products and Promoting the Improvement of Food Safety

Elucidating the relationship between agricultural ecological products and food safety is crucial in exploring avenues to bolster food safety within the framework of realizing the value of these products. This article delves into the intricate interplay and inherent connections among economic benefits, ecological benefits, social benefits, and food safety.

2.1. Economic benefits realized by the value of agricultural ecological products

The realization of the value of agricultural ecological products can facilitate the supply of high-quality ecological products. Given their unique production mode, ecological agricultural products often exhibit superior food safety and nutritional value compared to traditional agricultural products. Numerous studies have indicated that the development of green and organic agriculture, along with the promotion of the popularization and value realization of ecological agricultural products, are pivotal in enhancing food safety levels. Indeed, they are even anticipated to offer a comprehensive solution to the issue of food safety. Furthermore, through geographical indication certification or brand management, ecological agricultural products can attain greater market recognition and premium pricing power. The brand effect not only augments the added value of the products but also bolsters their market competitiveness [3]. Enhancing the level of food safety and implementing brand strategies for ecological agricultural products can attract greater amounts of social capital and policy support. The government may offer subsidies or tax incentives to foster the development of ecological agriculture. Concurrently, the influx of social capital will also propel the growth of related industries, including cold chain logistics and packaging processing.

2.2 Social benefits of the value realization of agricultural ecological products

Harnessing the value of ecological products in rural areas has the potential to transform natural resources, such as high-quality air, clean water, biodiversity, and pastoral scenery, into high-market-value goods and services. Examples include green agricultural products, ecotourism, and carbon sink trading, among others. This process can enhance farmers' incomes, ameliorate living conditions, and indirectly elevate food safety standards. Additionally, cultural service products disseminate ecological knowledge through natural education and the popularization of ecological science, thereby fostering heightened public awareness of environmental protection and food safety. As awareness of ecological protection increases, consumers' demand for ecological agricultural products has surged, providing both social support and motivation for advancing food safety initiatives [4].

2.3 The ecological benefits of the value realization of agricultural ecological products

Ecological benefits serve as the foundation of food safety and constitute a vital complement to economic and social benefits. Eco-agriculture emphasizes the recycling of resources and the preservation of biodiversity, thereby aiding in the restoration and maintenance of ecological balance [5]. By diminishing the utilization of chemical pesticides and fertilizers, the risks of soil, water, and air pollution are mitigated. Consequently, the ecological environment is effectively safeguarded, and the overexploitation and destruction of natural resources are curbed. Realizing the ecological value of agricultural ecological products ensures the standardization of the production process of these products, thereby fostering the continual enhancement of food safety.

3. Challenges faced by the realization of the value of agricultural ecological products to promote the improvement of food safety

By utilizing ecological agricultural products as the bridge, connecting ecological products with food safety, and establishing and refining the mechanism for realizing the value of ecological products, we can facilitate the comprehensive green transformation of agricultural development from its source and propel the steady enhancement of food safety standards. Nevertheless, currently, ecological agricultural products still confront numerous issues and challenges in research and development, production, exchange, and consumption.

3.1 Insufficient R&D investment and lack of scientific and technological innovation aiming at food safety

At present, China's agricultural R&D investment is relatively low, and its scientific and technological innovation ability is relatively weak. According to statistics, China's agricultural R&D investment accounts for about 0.7% of GDP, which is far lower than the level of 2%-3% in developed countries, and the special R&D funds for ecological agricultural products are more limited [6]. Secondly, owing to the public welfare nature and high risks associated with agricultural research, coupled with the absence of pertinent incentive policies, social capital investment in agricultural R&D remains relatively modest. Consequently, it is challenging to establish a stable and sustainable investment growth mechanism. Additionally, the majority of existing scientific research directions primarily focus on enhancing the yield and income of agricultural products. In contrast, research aimed at improving food safety is comparatively scant, making it difficult to meet the demands of modern agriculture and the market for high-safety agricultural products.

3.2 The level of industrialization is not high, and there is a lack of brand operation with food safety

Overall, the current industrialization level of ecological agricultural products remains low, with a relatively decentralized and traditional production mode that lacks modern management and operational practices. Many producers of ecological agricultural products continue to operate as small-scale family workshops, resulting in low efficiency and a challenge in achieving large-scale effects. In terms of brand building, although some agricultural products have adopted branding strategies, their social recognition is limited due to the low connotative value of their brands, weak brand logos, and high levels of homogeneity with other brands. Furthermore, as society's attention to food safety issues continues to grow, branding efforts that prioritize food safety as a core element are still notably absent [7]. Currently, the brand construction of ecological agricultural products has not adequately emphasized the core aspect of food safety, making it difficult to effectively attract

consumers. Consequently, enhancing brand building and highlighting the unique characteristics of food safety are crucial for elevating the market position of ecological agricultural products and fostering consumer trust.

3.3 Incomplete construction of trading platform and lack of traceability and supervision mechanism based on food safety

Currently, the construction of trading platforms for ecological agricultural products remains inadequate. On the one hand, there is a notable absence of credible trading platforms for agricultural ecological products. Many regions' online trading platforms for agricultural products are still in their nascent stages. These products lack the requisite quality certifications, and the awareness of standardization and branding management has yet to be established. On the other hand, in the current transaction of ecological agricultural products, a traceability and supervision mechanism centered around food safety has not been established. Consequently, it is challenging to construct a comprehensive traceability chain encompassing the production, processing, transportation, and sales of ecological agricultural products. Consumers are unable to accurately obtain information regarding the production and circulation processes of these products, leading to doubts about their safety. In the event of food safety issues, it is difficult to ascertain responsibility, which further erodes consumers' confidence.

3.4 Low awareness of consumption of ecological agricultural products, lack of popular science and guidance focusing on food safety

Currently, the science popularization and educational guidance concerning ecological agricultural products are inadequate, resulting in a relatively limited awareness among the public regarding the advantages and safety of these products. Although some consumers express a preference for ecological agricultural products, this preference has yet to be converted into stable and sustainable purchasing behavior. Under the combined influence of market demand and costs, enterprises lack the sufficient momentum to fully explore the market potential of ecological agricultural products. This, in turn, restricts the diversity of product types, hinders the expansion of market scale, and diminishes their market competitiveness. Consequently, emphasizing the food safety attributes of ecological agricultural products and enhancing the public's awareness of environmental protection and health benefits hold significant practical importance for realizing the value of ecological products and elevating the level of food safety.

4. Strategies for Enhancing Food Safety Levels through the Realization of Ecological agricultural Product Values

To effectively address the numerous problems and challenges faced by ecological agricultural products in research and development, production, exchange, and consumption, and to facilitate the realization of ecological product value while aiding in the improvement of food safety levels, it is imperative to concentrate on the following aspects.

4.1 Strengthening technological innovation and promoting the incremental improvement of ecological agricultural products

Technological innovation serves as a pivotal means to enhance the yield and quality of agricultural ecological products, and it holds immense significance in elevating the food safety standards of society at large. Our focus will be on researching and developing high-tech

technologies, including genetic modification, whole-genome selection, and multi-trait compound breeding. The aim is to cultivate new crop and forage varieties that exhibit efficient resource utilization, high quality, multi-resistance, low pollutant absorption, suitability for light and simple cultivation methods and mechanization, as well as developing efficient and high-quality multi-resistant specialized livestock and poultry aquatic product varieties. This will enable us to improve the quality and yield of agricultural ecological products from the source.

Furthermore, we will strive to make breakthroughs in a range of key technologies and major products that support green development. This includes precise crop cultivation, green tillage practices, precise water and fertilizer regulation, intelligent management systems, and other pivotal technologies. By creating new types of agricultural green inputs, we aim to achieve cost savings, efficiency improvements, quality and safety assurances, and green environmental protection in agricultural production. This will provide robust technological support for the realization of ecological agricultural product value.

Lastly, we will develop an ecological circular agriculture model. This involves innovating key technologies and products such as straw returning to the field for carbon sequestration and biomass energy utilization. We will also promote synergy between manure planting and breeding cycles, along with agricultural ecosystem pollution control and emission reduction efforts. Our goal is to establish an agricultural model that integrates planting and breeding, fosters ecological cycles, enhances resource utilization efficiency, minimizes waste emissions, and achieves a virtuous cycle within the agricultural ecosystem.

4.2 Establishing brand awareness and enhancing the competitiveness and added value of agricultural ecological products

Brand building is crucial for enhancing the market competitiveness and added value of agricultural ecological products. Firstly, by drawing upon the unique stories of local customs, historical culture, or production processes, brands can be endowed with emotional and cultural value. This enhances the regional and unique characteristics of agricultural ecological products, establishes a personalized and differentiated brand image, and attracts consumer attention. To fully leverage the market's decisive role in allocating resources for brand agriculture, the government should adopt a service-oriented approach. A specialized leading group for brand agricultural construction should be established, led by key government departments and involving multiple stakeholders. This group should guide and support the development of brand agriculture by providing robust policy support, a conducive business environment, and specific assistance measures for brand-creating enterprises or farmers. In the context of regional agricultural product branding, there should be a gradual promotion of incorporating the overall Yiyang regional public brand logo onto various agricultural products. High-quality brand agricultural products should adhere to principles of unified planning, logo and image, and service standards to boost brand recognition.

Secondly, brands should emphasize the ecological friendliness and health benefits of their products, catering to consumers' dual demands for environmental protection and health. Ecological agricultural product brands should be vigorously marketed, with brand promotion tailored to the characteristics of the times. Various media channels should be fully utilized to conduct targeted publicity and promotion, maximizing the exposure of agricultural product brands. Additionally, it is imperative to strengthen quality supervision and monitoring of media outlets and individuals involved in advertising and publicity. Effective crisis prevention measures should also be implemented in this field.

4.3 Improve the construction of trading platforms and empower digital trading and management of agricultural ecological products

From a product quality perspective, it is crucial to strengthen the supervision of ecological product quality, enhance the overall quality of these products, and thereby satisfy people's demand for high-quality ecological products. From the standpoint of the industrial chain, emphasis should be placed on the selection and traceability of ecological products. By leveraging IoT technology, we can achieve information management and traceability for the production, circulation, and consumption of ecological products. This will enable dynamic monitoring of ecological products and timely tracking of any changes in their form.

Regarding product safety, it is imperative to strengthen the supervision of ecological product quality and safety. We should improve the credit system for ecological products, establish a robust traceability mechanism for their quality and safety, and ensure traceability of ecological product information, quality, and accountability.

Enhancing the construction of trading platforms for agricultural ecological products is a pivotal means of ensuring product quality and safety. Firstly, we should build a digital trading platform that integrates functions such as display, intelligent matching, online bidding, and contract signing. This will facilitate centralized management and market trading of agricultural ecological resources, thereby improving transaction efficiency and management levels. Secondly, by introducing IoT and blockchain technology, we can establish a traceability system that covers the entire production, processing, transportation, and sales chain. This will ensure the transparency and traceability of each batch of products, guaranteeing the safety and reliability of agricultural ecological products. Lastly, by utilizing big data analytics, we can accurately assess consumers' preferences and needs. This will enable us to provide precise recommendations to potential users, reduce marketing costs, and enhance market promotion efficiency.

Finally, the design of the website should embody its function of providing diverse information services for enterprises within the cluster. The specific design should aim for conciseness and clarity, continually enhancing end-customers' ability to swiftly obtain required information on the platform. To achieve this, it is essential to further improve the sensitivity of the cluster's marketing information platform system to target market information. Consequently, it is necessary to input more distinctive information about internal enterprises onto the marketing platform within the ecological agricultural product cluster. This will enable enterprises within the cluster to form information alliances and exchange valuable market insights. Ultimately, this will assist the enterprises in leveraging their own efforts to strengthen the information exchange mechanism within the cluster and effectively address the issue of information barriers that originally existed among enterprises in the ecological agricultural product cluster.

4.4 Strengthening policy guidance and institutional innovation to ensure the sustained and stable realization of the value of agricultural ecological products

Enhancing policy mechanisms is crucial for ensuring the realization of ecological product value and elevating food safety standards. On the one hand, the government must establish comprehensive standards and regulations for the development and trading of ecological agricultural products. These standards should be accompanied by robust laws and regulations, and policies should be leveraged to their fullest supportive capacity. On the other hand, it is imperative to optimize the agricultural production subsidy system, guided by principles of green ecology. This includes refining the ecological product value accounting system, establishing a robust certification and labeling system for ecological products, and fostering a market-oriented approach to trading

these products. By fully reflecting the value of agricultural ecological products, we can enhance the enthusiasm of agricultural producers to embrace ecological agriculture. This not only bolsters the economic benefits for producers but also incentivizes and sustains green production practices. Ultimately, this achieves a harmonious balance between ecological protection and the realization of ecological product value.

Funding

This article is supported by General research projects of Humanities and Social Sciences in Colleges and universities of Henan Province (2022-ZZJH-283).

References

[1] Shen, Lin, et al. Research on the Economic Benefits of Ecological Regional Agricultural Products Processing Industry. Ekoloji. 27(2018):605-611.

[2] Zhao, Rong, J. Qiao, and Y. Chen. "Influencing factors of consumer willingness-to-buy traceable foods: An analysis of survey data from two Chinese cities." Hydrometallurgy 1(2010): 334-343.

[3] Altieri, Miguel A., F. R. Funes-Monzote, and P. Petersen. Agroecologically efficient agricultural systems for smallholder farmers: Contributions to food sovereignty. Agronomy for Sustainable Development. 32.1(2011): 1–13.

[4] Dong, Jinpeng, et al. Examining the value realization of ecological agricultural products in China: A tripartite evolutionary game analysis. Journal of Environmental Management. 374. (2025): 124-134.

[5] B, Wenpeng Du A, et al. The external dependence of ecological products: Spatial-temporal features and future predictions. Journal of Environmental Management. 304. (2022): 114-190.

[6] Dela-Cruz, M. J., and P. Koohafkan. Globally Important Agricultural Heritage Systems: A Shared Vision of Agricultural, Ecological and Traditional Societal Sustainability. Resources Science. 31.6(2009):905-913.

[7] Hanganu, Irina, and C. Fleeriu. Good Practices for Improving Promotion and Sales for Romanian Ecological Agricultural Products. Timisoara Journal of Economics and Business. 12.2(2019):71-86.