

Research on Packaging Design of Agricultural Products in the Context of Rural Revitalization

-- Taking Yanchi Tan Sheep as an Example

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Abstract: Against the backdrop of the full advancement of the rural revitalization strategy, the branding of agricultural products has become a key path to promote agricultural industrial upgrading, increase farmers' income, and achieve the sustainable development of rural economies. As a core carrier for disseminating the brand image of agricultural products and enhancing market competitiveness, packaging design has increasingly prominent strategic value. Taking Yanchi Tan sheep in Ningxia as the research object, this paper systematically explores the current status and problems of Yanchi Tan sheep's packaging design by integrating the core requirements of rural revitalization—"prosperous industries, livable ecology, and civilized rural customs"—and adopting literature research, case study, and field survey methods. The research is carried out from three dimensions: empowerment by regional culture, synergy between functionality and ecology, and brand value transmission. It proposes integrating local elements of Yanchi, such as grassland ecology, nomadic culture, and intangible cultural heritage craftsmanship, into visual design, while meeting functional needs including freshness preservation and protection, logistics adaptability, and environmental friendliness and degradability. Furthermore, a design strategy of "packaging-brand-industry" linkage is constructed. Ultimately, the study aims to help build Yanchi Tan sheep into a regional characteristic agricultural product brand through optimizing its packaging design, thereby providing theoretical references and practical paradigms for the packaging innovation and industrial upgrading of similar agricultural products under the background of rural revitalization.

Keywords: Rural Revitalization; Agricultural Product Packaging Design; Yanchi Tan Sheep; Regional Culture; Brand Construction; Ecological Design.

1. Introduction

1.1. Research Background

In recent years, the rural revitalization strategy has injected strong impetus into the development of agriculture and rural areas in China. As the primary task of the strategy, "prosperous industries" requires the transformation of agricultural products from "primary production" to "branded operation". However, the packaging of most agricultural products still has obvious shortcomings: problems such as shoddy materials, lack of information and low brand recognition have restricted their market competitiveness [1]. In this process, packaging design is not only a "protective shell" for agricultural products, but also a key medium connecting products with consumers, conveying regional cultural value and enhancing product premium capacity.

As a geographical indication product of Yanchi County, Ningxia, Yanchi Tan Sheep relies on the local unique grassland ecology and traditional breeding techniques, and has the core advantages of "tender meat quality and no muttony odor". It is one of the pillar industries for Yanchi County to promote the revitalization of rural industries. Nevertheless, the current packaging design of Yanchi Tan Sheep still has many problems: some packages lack regional cultural recognition and are difficult to reflect the uniqueness of the product; some packages emphasize "functional practicality" over "visual decoration", resulting in insufficient construction of local specialty brands; others fail to take into account the requirements of ecological environmental protection, which is contrary to the development concept of "livable ecology" in rural areas. These problems have

restricted the promotion of Yanchi Tan Sheep's brand value and also affected its competitiveness in the market. It is urgent to carry out systematic research and optimization on its packaging design based on the strategic needs of rural revitalization.

1.2. Research Significance

This study deeply integrates agricultural product packaging design with the rural revitalization strategy, breaks through the previous research paradigm of packaging design that solely focuses on visual aesthetics, and constructs a multi-dimensional integrated theoretical framework for agricultural product packaging design featuring "culture + function + ecology + brand". It enriches the theoretical system for the branding of agricultural products in the context of rural revitalization, and provides new perspectives and methods for the research on packaging design of agricultural products with regional characteristics.

Targeting the practical problems in the packaging design of Yanchi Tan Sheep, the study puts forward specific optimization strategies and design schemes, which can directly guide the upgrading practice of Yanchi Tan Sheep packaging and help enhance its brand recognition and market competitiveness. Meanwhile, the research results can be extended to the packaging design of similar agricultural products with regional characteristics in Ningxia and even across the country, providing feasible practical paths for the industrial upgrading of agricultural products and the increase of farmers' income under the background of rural revitalization.

2. The Correlation between Rural Revitalization and Agricultural Product Packaging Design

2.1. Packaging Design is an Important Starting Point for Promoting the Prosperous Development of Agricultural Product Industries

The core of rural revitalization lies in "prosperous industries", and the branding of agricultural products is the key to industrial prosperity. As the "visual calling card" of agricultural product brands, packaging design directly affects the market competitiveness and premium capacity of products. On the one hand, high-quality packaging design can enhance the visual recognition of agricultural products, help them stand out among similar commodities, and attract consumers' attention. On the other hand, packaging design can strengthen consumer trust and increase product added value by conveying product quality information (such as fresh-keeping technology and traceability QR codes) and regional characteristics. This in turn drives the upgrading of the industrial chain—from breeding and processing to sales—forming a positive cycle of "packaging empowers brands, and brands drive industries", and ultimately realizing farmers' income growth and the sustainable development of industries.

Taking Chu Orange as an example, its packaging design not only highlights the personal brand of "Chu Shijian" and the cultural label of "inspiration", but also conveys the freshness and quality of the fruit through a simple orange-based color scheme and clear product information. This transformed Chu Orange from an ordinary orange into a high-end brand, driving the large-scale development of the orange industry in the Ailao Mountain area of Yunnan. It has thus become a typical case of packaging design boosting the prosperity of agricultural product industries.

2.2. Packaging Design is a Carrier for Inheriting the Civilized Rural Customs of the Countryside

"Civilized rural customs" is the soul of rural revitalization, and regional culture constitutes the core connotation of civilized rural customs. The packaging design of agricultural products can transform rural elements such as folk culture, traditional craftsmanship and natural landscapes into visual symbols, which are then conveyed to consumers through the medium of packaging, thereby realizing the protection and dissemination of rural culture.

For instance, the packaging of Shaanxi apples incorporates elements like Qin Opera facial masks and cave-dwelling architecture. This not only reflects the distinctive regional cultural features of Shaanxi, but also enables consumers to gain insights into the cultural connotation of the countryside while purchasing the products. The packaging of Zhejiang Longjing tea adopts the traditional Chinese ink painting style, showcasing the ecological landscapes of West Lake tea plantations and the profound heritage of tea culture, and thus achieves the effect of "the product itself being a cultural carrier". As for Yanchi Tan sheep, its packaging design can integrate elements such as the grassland ecology of Yanchi, the breeding customs of nomadic ethnic groups, and Ningxia's intangible cultural heritage craftsmanship (e.g., Helan stone carving and Hui ethnic group embroidery). In this way, the

packaging becomes a window for conveying the rural culture of Yanchi, facilitating the inheritance and promotion of civilized rural customs.

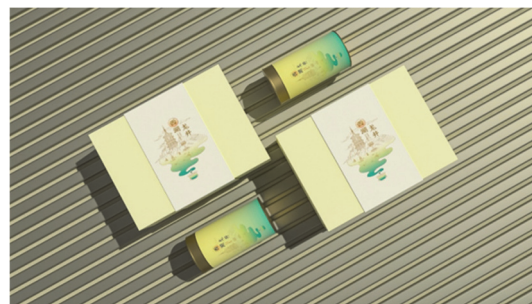


Figure 1. Longjing Tea Packaging Design

2.3. Packaging Design is a Concrete Manifestation of Practicing the Rural Development Concept of "Livable Ecology"

"Livable ecology" is an important goal of rural revitalization, which requires that the entire processes of agricultural production and consumption conform to the concept of ecological environmental protection. As the terminal link of the agricultural industrial chain, the material selection and design scheme of agricultural product packaging directly affect the ecological environment: traditional non-degradable plastic packaging is liable to cause environmental pollution, while excessive packaging leads to resource waste, which is contrary to the concept of livable ecology.

Therefore, the packaging design of agricultural products in the context of rural revitalization must follow the principle of "ecology first". On the one hand, environmentally friendly and degradable/recyclable materials (such as paper materials, corn starch-based plastics and bamboo weaving materials) should be adopted to reduce environmental pollution. On the other hand, the application of "lightweight design" and "reusable design" can reduce the consumption of packaging materials. For example, foldable transport packaging and sales packaging that can be reused as storage boxes not only reduce resource waste, but also meet consumers' demand for eco-friendly products. Such eco-oriented packaging design not only implements the rural concept of "livable ecology", but also enhances the product's image of social responsibility and wins consumers' favor.

3. Overview of Yanchi Tan Sheep Development and Current Status of Its Packaging Design

3.1. Overview of the Survey

Yanchi Tan Sheep boasts a long breeding history. According to historical records, A Brief Record of Yinchuan compiled in the 20th year of the Qianlong reign (1755) noted that "sheepskin and mutton are produced in all regions of Ningxia, with those from Yanzhou (present-day Yanchi) being particularly superior". The New General Gazetteer of Gansu written in the 34th year of the Guangxu reign referred to Tan Sheep colloquially as "white sheep", and the fur produced by them as "tan skin". Thanks to the worldwide fame of "tan skin", the "white sheep" was gradually renamed "Tan Sheep". As of September 2025, the

stock of sheep raised in Yanchi County has reached 3.401 million, the mutton output stands at 29,000 tons, and the total output value of the entire Tan Sheep industry chain has hit 8.01 billion yuan. Yanchi County has always regarded the Tan Sheep industry as its "No. 1 Industry", vigorously carried out quality improvement initiatives, and taken the construction of the "Five Modernization System"—namely seed improvement, large-scale farming, standardization, industrialization and branding—as the development path, striving to promote the high-quality development of the Tan Sheep industry.

An investigation into the packaging design of Yanchi Tan Sheep products currently available on the market reveals that most packages fail to highlight the regional characteristics or breed advantages of Yanchi Tan Sheep. This makes it difficult for consumers to form a holistic perception of the Yanchi Tan Sheep brand, which is not conducive to brand communication and promotion. Therefore, the packaging design of agricultural products should reflect the intrinsic product information and cultural features, with a focus on two aspects—the regional cultural characteristics and product positioning of the commodity—at the initial design stage.

3.2. Current Status of Yanchi Tan Sheep Packaging Design

3.2.1. Packaging Types and Materials

Currently, the packaging of Yanchi Tan Sheep products is mainly divided into three categories: First is transport packaging, which is dominated by corrugated cartons. Some enterprises adopt a combination of foam boxes and ice packs for the long-distance transportation of fresh mutton. Second is sales packaging, which is further categorized into gift-box packaging and bulk packaging: gift-box packaging mostly uses cardboard boxes or wooden boxes, targeting the festival gift market; bulk packaging mainly consists of transparent plastic bags or vacuum-sealed bags, suitable for daily retail sales. Third is premium gift packaging, which is mostly made of high-end wooden boxes or leather gift boxes with vacuum-sealed mutton products inside. It is priced relatively high and targeted at the high-end consumer market.

3.2.2. Visual Design Elements

The visual elements of existing Yanchi Tan Sheep packaging are mainly concentrated in three aspects: first is product information, such as the words "Yanchi Tan Sheep", geographical indication logos, product names (e.g., "lamb meat", "lamb chops"), and production dates, with the information being relatively concise and clear; second is regional elements—some packages use pictures or stick figures of Yanchi grasslands and Tan Sheep, yet the design is rather shoddy and lacks artistic appeal; third is cultural elements—a small number of premium gift boxes incorporate Hui ethnic patterns or regional symbols like Ningxia wolfberries and Helan Mountain, but the application is fragmented and has not formed a systematic visual system.

In terms of color, most packages adopt red and yellow as the main colors to highlight the festive atmosphere or the "joyful" attribute of the products; a few high-end packages use calm colors such as brown and black to convey a sense of premium quality. On the whole, the color collocation is relatively monotonous and lacks distinctiveness.

3.3. Core Problems Existing in the Packaging Design of Yanchi Tan Sheep

3.3.1. Insufficient Application of Regional Cultural Elements and Low Brand Recognition

The survey reveals that a large number of products on the market share a common problem—it is difficult to identify Yanchi Tan Sheep at a glance just by their packaging. The core reason lies in the fragmentation and homogenization in the application of regional cultural elements. On the one hand, the existing packaging only scratches the surface of Yanchi's regional culture, merely featuring superficial symbols such as grasslands and Tan Sheep, but fails to integrate Yanchi's unique nomadic culture, Hui ethnic customs or intangible cultural heritage craftsmanship, making it hard to reflect the cultural uniqueness of the product. On the other hand, the dominant red and yellow color schemes are identical to those of most agricultural product gift boxes, lacking exclusive visual symbols. This leads to Yanchi Tan Sheep being easily confused with similar products such as Inner Mongolia mutton and Xinjiang mutton in the market, resulting in low brand recognition.



Figure 2. Packaging of Yanchi Tan Sheep Mutton

3.3.2. Functional Design is Disconnected from Actual Demands

From the perspective of production and distribution, enterprises report a high damage rate of transport packaging. Especially during long-distance transportation, thin corrugated cartons are prone to extrusion and deformation, resulting in product losses. From the consumer perspective, most consumers state that vacuum-sealed bags are difficult to open, and 53% of them believe that gift box packaging lacks internal compartments, making it inconvenient to access the contents. These problems indicate that the packaging design of Yanchi Tan Sheep products fails to fully consider the protective needs of production and distribution as well as the usage needs of consumers. The functional design is disconnected from actual scenarios, which undermines the product's market reputation.

3.3.3. Weak Awareness of Ecological Environmental Protection

Currently, the packaging of Yanchi Tan Sheep products face two major issues: over-packaging and non-environmentally friendly materials. On the one hand, some premium gift boxes adopt non-renewable materials such as wood and leather, with a large number of plastic linings and decorations inside. The packaging cost accounts for more than 20% of the total product cost, which constitutes over-packaging and results in a waste of resources. On the other hand, 70% of the sales packaging for such products uses non-degradable plastic vacuum bags, which easily turn into white

pollution after disposal. This runs counter to the concept of "livable ecology" in rural revitalization and also fails to meet the current consumers' demand for eco-friendly products.

3.3.4. The Packaging Design is Mismatched with the Brand Positioning

As a geographical indication product, Yanchi Tan Sheep should be positioned as a mid-to-high-end featured agricultural product. However, the existing packaging design presents a state of polarization: the low-end bulk packaging is overly shoddy, failing to reflect the high quality of the product; while the high-end gift box packaging, despite its sophisticated materials, lacks the communication of core values such as the superior meat quality of Yanchi Tan Sheep and its eco-friendly breeding environment, leaving consumers unable to understand the rationality behind its premium pricing. This disconnect between positioning and packaging hinders consumers from perceiving the brand value of Yanchi Tan Sheep, which in turn undermines the product's premium pricing power.

4. Packaging Design of Yanchi Tan Sheep Against the Background of Rural Revitalization

4.1. Extraction of Ecological and Cultural Elements

The excavation and condensation of regional cultural symbols into design elements for packaging design play a decisive role in the positioning and style of agricultural product packaging design [2]. Located in the eastern part of Ningxia, Yanchi County boasts a unique grassland ecosystem and Danxia landform. Natural landscapes such as "Yanchi Grassland", "the edge of the Mu Us Sandy Land" and "the Great Wall ruins" are important symbols of the living environment of Yanchi Tan Sheep. These landscapes can be transformed into minimalist line illustrations or ink-wash style patterns and integrated into packaging design: for example, a panoramic line drawing of Yanchi Grassland can be applied to the front of gift box packaging, with a light blue gradient background to reflect the vastness and freshness of the grassland; a simplified pattern of the Great Wall ruins can be printed on the side of transport packaging to convey the regional and historical characteristics of Yanchi.

Meanwhile, the "ecological breeding" mode of Yanchi Tan Sheep is the core reason for its superior meat quality. Scenarios such as "Tan Sheep grazing" and "herdsmen pasturing" can be designed into cartoon images or icons and printed on the packaging. This can intuitively convey the ecological attributes of the product and enhance consumer trust. The inherent culture contained in visual symbols can subtly enrich the external form of packaging design, promote the dissemination of local regional culture and the expansion of market visibility, and increase the added value of agricultural products[3]



Figure 3. Design Process



Figure 4. Packaging Poster

4.2. Color Scheme for Packaging Design

The core of this color scheme selected for Yanchi Tan Sheep packaging lies in anchoring the natural and regional characteristics of its origin—Yanchi, Ningxia—and establishing a visual connection between the product and its growth environment through colors.

The gradient from deep green to medium green and then to light green corresponds to the native grasslands where Tan Sheep inhabit and the vegetation layers transitioning from grasslands to saline-alkali flats, reproducing the core ecological scene of Tan Sheep's growth. Meanwhile, the light cyan hue is extracted from the colors of the Gobi soil and sandy landforms in the region, accurately conveying the geographical features of the production area.

This earth-tone color scheme inherently exudes a simple and primitive visual temperament. It not only aligns with the "natural and authentic" positioning of local specialty products, but also avoids the dilution of the "ecological breeding" attribute caused by gaudy colors. The soft color layers not only ensure visual comfort required for food packaging, but also enable consumers to quickly associate the colors with the natural growth environment of Tan Sheep, thereby building the perception of "authentic origin and natural quality". At the same time, it strengthens the regional distinctiveness of the packaging, helping the product stand out with its unique "origin-traceable" texture among similar local specialties.

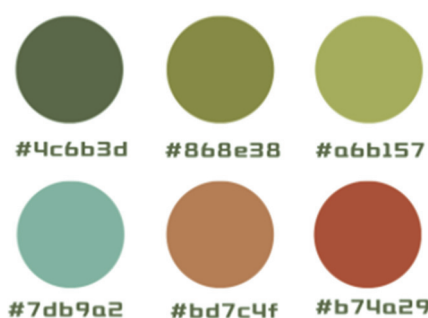


Figure 5. Color Scheme for Packaging Design

4.3. Design Description

The packaging design of Yanchi Tan Sheep products aims to highlight the product's premium quality and regional characteristics through distinctive visual design, eco-friendly material selection, and user-friendly functional design, so as to meet consumers' demand for high-quality food.

The packaging features the natural scenery of Yanchi and images of Tan Sheep, combined with the traditional paper-cutting style, to highlight regional characteristics and cultural heritage. Drawing on Ningxia's distinctive paper-cutting art, decorative patterns in paper-cutting style are designed on the corners of the packaging to enhance visual appeal.

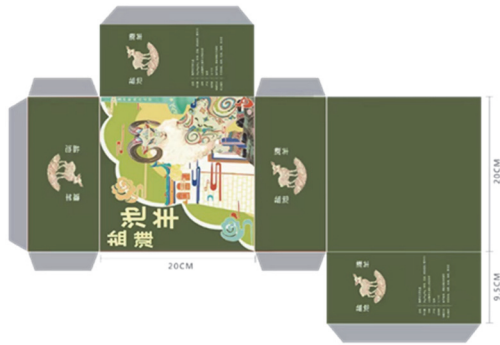


Figure 6. Die-cut Template



Figure 7. Mockup Image



Figure 8. Physical Image of Product Packaging

The color scheme adopts dark green and gold, symbolizing

nature, health, and premium quality. The packaging design incorporates the brand story and cultural background of Yanchi Tan Sheep. Meanwhile, the logo design is concise and elegant, integrating the image of Yanchi Tan Sheep to convey the core values of the brand.

5. Conclusion

Taking the packaging design of Yanchi Tan Sheep as a specific case, this study conducts an in-depth exploration of the optimization paths and practical strategies for agricultural product packaging design against the backdrop of rural revitalization. Through the investigation and analysis of the existing packaging of Yanchi Tan Sheep, this study identifies the core problems in terms of regional cultural expression, functional practicality, ecological environmental protection, and brand positioning matching. Based on the concept of service design, targeted design schemes are proposed from the dimensions of cultural symbol extraction, functional structure optimization, eco-friendly material selection, and visual system construction.

The study shows that agricultural product packaging is not merely a simple "protective shell", but an important medium that carries regional culture, conveys brand value, and connects the production and consumption ends. As a geographical indication product of Ningxia, the packaging design of Yanchi Tan Sheep needs to anchor its brand positioning as a "mid-to-high-end featured agricultural product". It should integrate regional elements such as grassland ecology, Danxia landform and the Great Wall ruins with traditional art forms like paper-cutting, and arouse consumers' awareness of its origin through visual symbols.

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