

Application of tea waste in hard packing box

Wenwen Shi

Hubei Three Gorges Polytechnic, Yichang 443000, China.

Abstract: This paper analyzes the main problems existing in the tea hard box packaging, analyzes the necessity of the application of green environmental protection materials in the tea hard box packaging. After the technical treatment of the pruned tea tree branches, the pulp is completed without adding any chemical substances and then processed into hard paperboard, which is green and environmentally friendly and low cost.

Key words: Green environmental protection materials; Tea packaging design; Effective application

Introduction: In the context of the current era, the state is advocating the ecological concept of “clear water and green mountains are gold hills and silver mountains” with unprecedented efforts. This concept emphasizes the importance of harmonious coexistence between man and nature, and takes this as a guide to actively promote the wide application of green environmental protection production. This measure not only reflects the country attaches great importance to the construction of ecological civilization, but also reflects the society’s urgent need for sustainable development. Against this backdrop, people’s consumption concepts and behavior patterns are undergoing profound changes. More and more consumers are inclined to choose products and packaging that are green, energy-saving, environmentally friendly and recyclable. They believe that such products are not only beneficial to personal health and the improvement of family life quality, but also responsible for the earth’s environment.

1. Survey and analysis of the status quo of tea packaging

In order to better understand the needs and expectations of consumers, we have deeply analyzed the classification of tea packaging and the selection of materials through various ways such as network research and market research. We found that as a traditional Chinese drink, the packaging of tea not only inherits culture, but also carries consumers’ dual pursuit of quality and environmental protection. Consumers generally have a high degree of recognition for green environmental protection materials, and they expect tea packaging to pay more attention to environmental performance and reduce the impact on the environment. Based on these findings, we summarized consumer expectations for the application of green materials in tea packaging. They want tea packaging to use biodegradable and recyclable materials, reduce energy consumption and emissions during production, and at the same time, the design should reflect the characteristics of simplicity, fashion and utility. In addition, the consumption upgrade and quality requirements highlighted by the concept of green design are also becoming increasingly prominent. Consumers are no longer just satisfied with the basic functions of products, but pay more attention to the environmental performance and cultural connotation of products. Therefore, when designing tea packaging, we need to combine the concept of green environmental protection with traditional cultural elements to create tea hard box packaging that meets the requirements of green development, but also meets the public aesthetic and contemporary lifestyle. Through this design, we can effectively reduce material consumption and cost expenditure, reduce the generation and disposal of packaging waste difficulty. At the same time, inherit and carry forward the tea culture, show the cultural connotation and value of tea packaging, and improve the value of tea and market competitiveness. This will help expand the development space of the green environmental protection market, promote the sustainable development of the tea industry, and make tea packaging more contemporary and forward-looking.

Tea, a dry product carrying thousands of years of culture, has extremely high requirements for preservation conditions. Due to its easy moisture absorption and qualitative change, the container and method of storage need to be very careful. The characteristics of tea make it have strong absorption of moisture and odor, and its unique aroma is very volatile. Therefore, how to properly take care of tea, prevent it from moisture, oxidation, and maintain its original quality and flavor has become the key to tea preservation. In the tea packaging, the choice of green environmental protection materials is particularly important. At present, the main green environmental protection packaging materials on the market are the following: metal can packaging materials: This material can well prevent the damage of tea and reduce the possibility of moisture. Due to the excellent sealing performance of metal, it can prevent the tea from being oxidized, so as to maintain the freshness of tea. However, it has the disadvantage of being more expensive and heavier, which will increase the cost of transportation. Carton packaging materials: The carton packaging made of special process not only has good shading performance, but also can effectively avoid the damage of tea during transportation. However, the disadvantage of the carton is that it is easy to be damaged, which may affect the sales of tea. Plastic molding container packaging materials: This packaging material is mostly made of polyethylene, polypropylene, polyvinyl chloride and other materials, beautiful appearance. But its sealing performance is poor, and is not conducive to recycling, causing a certain burden on the environment. Bamboo (wood) box packaging: This packaging material is fine and can attract some consumers. However, due to its poor sealing performance and high cost, it is usually only suitable for some high-end tea products and can not be widely promoted among ordinary people. In order to ensure the scientific selection of green environmental protection materials in tea packaging, we need to take comprehensive consideration according to the characteristics of tea, preservation requirements and consumer needs. When choosing packaging materials, priority should be given to those green environmental protection materials with good sealing performance, moisture resistance and oxidation resistance and moderate cost; At the same time, the degradability and recyclability of the material should also be considered to reduce the impact on the environment. Through scientific selection of materials and reasonable design of tea

packaging, we can better maintain the quality of tea to meet the needs of consumers and promote the wide application and development of green environmental protection concept in the tea industry.

2. The application of tea waste in tea packaging design

Tea, the world's main economic crop, has thousands of years of planting history and profound cultural heritage in China. It is not only the daily drink of the Chinese people, but also represents a part of Chinese traditional culture. In 2017, the tea planting area in China has exceeded 44 million mu, with an annual output of 2.58 million tons of tea. This figure not only reflects the huge scale of China's tea industry, but also shows the important position of tea in the national economy. Tea planting is widely distributed in various provinces, especially in mountainous areas, where tea has become the pillar of local economic development. For tea farmers in mountainous areas, tea is not only their main source of income, but also a symbol of harmonious coexistence with nature. Every spring and summer, tea farmers work hard and carefully take care of the tea plants in anticipation of a good harvest. Picking, making and selling tea has become a major economic activity in many rural areas.

Yichang, the nationally known "Orange Tea Town", is famous for its unique natural conditions and long history of tea culture. Located in the middle and upper reaches of the Yangtze River, Yichang has a humid climate and fertile soil, which provide unique conditions for the growth of tea. There are many varieties of tea here with good quality, which are favored by consumers. As a special area in the upper and middle reaches of the Yangtze River planned by the Ministry of Agriculture and a key area for the export of green tea, Yichang's tea industry has developed rapidly in recent years. As of 2016, the city's tea planting area has reached 888,000 mu, the output is as high as 70,000 tons, the output value is 2.6 billion yuan, the comprehensive output value is more than 11 billion yuan. This series of figures not only highlights the vigorous development trend of Yichang tea industry, but also indicates greater development space and potential in the future. However, in the process of tea tree planting and production, a large number of pruning branches and waste stalks are generated every year. The large number of these pruned tea tree branches can be difficult to dispose of. Some tea farmers may choose to burn them on the spot or discard them at will, which not only wastes resources, but also may cause environmental pollution and safety hazards. In order to solve this problem and achieve a high utilization of raw materials, some modern technological means have been introduced into the treatment process of tea shoots. Through technical treatment, raw materials such as tea tree branches and tea stalks, which were originally regarded as waste, are processed into pulp without adding any chemicals. After further processing, the pulp is made into hard cardboard, which is finally processed into green tea boxes.

This green and environmentally friendly tea packaging box not only solves the problem of processing tea tree branches, but also reduces the cost of packaging materials. At the same time, due to the use of degradable materials, the environmental impact of this packaging box is greatly reduced. More importantly, this effective and comprehensive use of tea tree resources not only promotes the increase of income of tea farmers but also solves the problem of dealing with a large number of branches left behind after a large number of tea trees are pruned or mowed. At the same time, it also achieves the purpose of waste utilization, increases the comprehensive utilization value of tea trees and reduces the amount of forest felled every year for the raw materials required for the paper market. The use of this green environmental protection material not only brings economic benefits but also plays the role of environmental protection and energy saving, improves the comprehensive agricultural benefits and lays a good foundation for resource regeneration. Making full use of tea tree resources to improve the comprehensive utilization value of tea tree is one of the important ways to improve the comprehensive agricultural benefits. Through scientific and rational use of these resources, we can achieve a win-win situation of economic and ecological benefits, and contribute to the construction of sustainable development of agricultural system.

The effective application of green environmental protection materials in tea hard box packaging is a major innovation in the field of tea packaging design in recent years. With the increasing awareness of environmental protection, traditional tea packaging materials have been unable to meet the needs of modern consumers for environmental protection and health. Therefore, the application of green environmental protection materials in tea hard box packaging not only improves the environmental performance of tea packaging, but also injects new vitality into the sustainable development of tea industry. As a traditional Chinese famous specialty, the packaging design of tea has always attracted much attention. However, the traditional tea packaging materials often have problems such as environmental pollution and resource waste. In order to solve these problems, more and more tea enterprises begin to try to use green environmental protection materials to replace traditional packaging materials. Green environmental protection materials have the characteristics of degradable, recyclable and pollution-free, and the application of green materials in tea hard box packaging can effectively reduce the pollution to the environment. For example, the use of degradable pulp materials to make tea packaging boxes can not only reduce the cost of packaging, but also return to nature through natural degradation after use, forming the recycling of resources. In addition, some biodegradable plastics and other new environmental protection materials are also widely used in tea packaging, these materials have good water resistance and sealing, can effectively protect the quality and taste of tea. In addition to the improvement of environmental performance, the application of green environmental protection materials in tea hard box packaging has also brought significant economic benefits and social benefits. First of all, the use of green environmental protection materials can reduce the production cost of tea enterprises and improve the economic benefits of enterprises. Because green environmental protection materials are renewable and recyclable, enterprises can reduce the procurement cost of raw materials by recycling waste packaging materials. At the same time, the use of green environmental protection materials can also enhance the social image of enterprises to meet the needs of modern consumers for environmental protection and health, thus enhancing the market competitiveness of enterprises.

Secondly, the application of green environmental protection materials in tea packaging can also promote the rational use of resources and environmental protection. Traditional tea packaging materials often require a lot of wood, plastic and other resources to produce, and the mining and processing of these resources will cause serious damage to the environment. The use of green environmental protection materials can effectively reduce the consumption of natural resources and reduce environmental pollution in the production process. In addition, the degradability of green environmental protection materials can also reduce the generation and disposal costs of waste, and contribute to the cause of environmental protection. The application of green environmental protection materials in tea hard box packaging also opens a new chapter in green design. Green design is a design concept that focuses on environmental protection and sustainable development, which emphasizes that environmental factors and resource utilization efficiency should be fully considered in product design and production process. The application of green environmental protection materials in tea packaging design is the embodiment of green design concept. Through this design method, it can not only improve the environmental performance and use value of tea packaging, but also guide consumers to establish environmental awareness and green consumption concept, and promote the sustainable development process of the whole society.

The effective application of green environmental protection materials in tea hard box packaging is an important measure to improve the application efficiency of green environmental protection materials and meet the sustainable development strategy. It can not only bring significant economic benefits and social benefits, but also contribute to the cause of environmental protection. Therefore, we should actively promote and apply the experience and technical achievements of the use of green environmental protection materials in the design of tea packaging, and contribute to the construction of an environmentally friendly society.

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