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How to Develop the Tea Industry in Leiyang City ?

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Abstract Based on the current development situation of tea industry in Leiyang City, this paper analyzes the existing problems such as small scale of high quality tea plantation, insufficient brand awareness, inadequate funding input, extensive tea plantation management, rising labor costs and outdated mechanical equipment. Finally this paper expounds the development goal and sets forth the corresponding recommendations.

Key words Leiyang City, Tea, Development status, Recommendations

1 Introduction

The tea industry was one of the pillar industries in Leiyang City. In the early 1980s, the city had 157 tea plantations, mainly distributed in 10 towns such as Longtang, Zhushi and Zheqiao, with the tea plantation area of 2200 ha and annual output of 450 t, and the tea production peaked during this period. In the 1990s, the tea plantations were affected by natural disasters such as pests and freeze disaster, and the planting area gradually declined. In 2008, the tea planting area was only 900 ha and the annual tea production was only 183 t. Since 2009, under the guidelines of adjusting the agricultural structure and promoting special economic development, Leiyang's tea industry has developed by leaps and bounds, and the planting area has been gradually expanded. Now the city has 1200 ha of tea plantations with annual output of 280 t. At present, the municipal government is stepping up the research and formulation of relevant supporting policies to develop tea industry, rely on leading industry to promote upgrade of tea industry, and increase farmers' income.

2 Current situation of development of tea industry in Leiyang City

In recent years, Leiyang City has focused on "Jiangtou tribute tea" and expanded the scale of production of tea. Now there are three large tea production bases in Longtang Town of this city. Jiangtou Ecological Agriculture Development Co., Ltd. has 260 ha of old and new tea bases; Haicheng Ecological Agriculture Development Co., Ltd. has 140 ha of tea plantations; Shuimu Furong Tea House has 120 ha of tea plantations. Jiangtou Ecological Agriculture Development Co., Ltd. eliminates some old processing plants, and builds a new standardized tea processing plant with the area of 2000m². It introduces the latest automated production lines of famous and high quality flat green tea, with annual processing capacity of 300 t. Leiyang has a long history of tea cultivation, with profound tea culture heritage. Jiangtou tribute tea has enjoyed a widespread reputation since ancient times, and it was as

a tribute tea as early as the Tang Dynasty. In recent years, due to industrial development, the production scale of Jiangtou tribute tea has been gradually expanded and the quality has also been continuously improved. In 2013, it won "China Famous Tea Gold Award" in China (Shanghai) International Tea Fair. In August 2008, Leiyang Jiangtou Tea Association was established, with more than 180 registered members. It integrates all tea production forces in Longtang Town, and establishes the industrial development idea of "association + company + base + farmer". The output value of 667 m³ of tea plantation base belonging to the association exceeds 8000 yuan. The original variety of tea in Leiyang City was mainly Fuyun 6. Now the new high quality varieties include Fuding Dahao, Fuding Dabai, Xiangbolu, Zhuyeqi and Baihaozao, with improved seed coverage of 40%. In 2008, Hunan Tea Research Institute was invited to be the technical cooperation unit for Leiyang Jiangtou Tea Association. It offers full guidance in tea plantation planning, new product introduction, cultivation and tea processing technology. In the farming season, it timely publishes free technical data to tea farmers. It uses insecticidal lamps, yellow sticky card, and other green prevention and control techniques, to improve the yield and quality of Jiangtou tea. In 2011, Jiangtou Ecological Agriculture Development Co., Ltd. declared "High Quality Tea Processing Project of Jiangtou Tribute Tea Plantation" and obtained 7.86 million yuan of support fund from the National Development and Reform Commission. In 2012, it declared "150 Tons of Jiangtou Tribute Tea Processing and Expansion Project", and obtained 1.95 million yuan from Agriculture Development Office of Leiyang City. All relevant departments have offered special policy support for the projects related to Jiangtou tribute tea.

3 The main problems in the development of tea industry in Leiyang City

(i) Small scale of high quality tea plantation. The area of tea production base in Leiyang City is not large, the scale of high-quality tea plantations is small, and most of tea varieties are old varieties introduced in the 1970s–1980s. The tea produced is difficult to meet the famous tea processing needs, and the current improved tea plantations only account for 40% of total tea plantations in the

city, indicating that there is still plenty of room for quality improvement. (ii) Insufficient brand awareness. Although there is "Jiangtou tribute tea" brand in Leiyang City, it is not famous and fails to become a brand-name product in Hunan Province. Due to the differences in views of enterprises, the integration of resources needs to be led by government. At present, it is still hard to build famous brands and industry groups. (iii) Inadequate funding input. Building 667m² of high-standard tea plantations will cost about five years and 8000 yuan from planting to picking, so the ordinary tea plantation lacks funding in face of high input. Although in recent years the government of Leiyang City has invested more than 10 million yuan, it can not meet the actual needs of the development of the tea industry, so that there is no economy of scale. (iv) Extensive tea plantation management. Most of the farmers ignore management and only consider tea cultivation links, lacking follow-up management and protection funds. They still live at the mercy of the elements, and there is a large proportion of low-yielding tea plantation. The infrastructure of tea plantations is still backward, and the resistance to natural disasters is not strong. (v) Rising labor costs. There is a clear trend of older age and low quality among workers, and the shortage of labor resources makes the labor costs continue to rise, making it difficult to adapt to standardized modern tea production requirements. This issue is particularly prominent in the picking season. (vi) Outdated mechanical equipment. At present, only three leading enterprises in Leiyang City have developed the planting procedures and product standards. The processing technology lags behind in most small tea plantations, and the tea-making machinery is obsolete, leading to unstable quality of finished products. There is almost no machinery in picking which requires a lot of labor.

4 Development orientation of tea industry in Leiyang City

(i) Development goals. By 2020, the tea planting area will reach 3400 ha, the annual output will reach 1400 t, and the clonal improved seed coverage will reach more than 80%; it aims to create one provincial leading enterprise with annual processing capacity of more than 1000 t, annual output value of 200 billion yuan and annual revenue of more than 40 million yuan; it strives for the province's well-known trademarks and national geographical indication. (ii) Development layout. It takes actions that suit local circumstances, reasonably adjust structure, and optimize the industrial layout. The new main tea producing areas mainly include 11 towns (Longtang, Dashi, Zheqiao, Gongping, Xiaoshui, Mashui, Zhuxiang, Daozi, Donghu, Shaming and Liangyuan). The new expanded area of tea plantations is 2200 ha, accounting for more than 90% of total tea plantation area. (iii) The establishment of the park. The city establishes the tea industrial park in Longtang Town, and orderly guides land transfer according to the law. The park achieves land transfer rate of over 90%, implements "association + company + base + farmers" mode, and uses the forms of large household contracting and other forms to in-

tegrate all forces and gather industrial advantages. It uses the government-led mode and market operation to build brand and vigorously develop industry, so that tea industry truly becomes one of the pillar agricultural industries in Leiyang City.

5 Recommendations

(i) Improving the quality of tea products. It is necessary to implement the standardized production, improve regional layout and planning, and strengthen the building of tea industry bases. However, it should be noted that the introduction of considerable famous high quality tea resources from other places can easily lead to similar taste of tea products and homogenization competition in the market. It is necessary to focus on the tea germplasm breeding to ensure the large-scale upgrading of varieties for tea plantations. The new varieties cultivated locally have better adaptability and unique competitive advantage, which will help create a brand. (ii) Improving the facility conditions of tea plantations. The tea plantation base construction is the basis of tea industry development, and the tea field construction must be in accordance with planning to facilitate subsequent management. According to the comprehensive requirements of ditches, drains, roads and electricity, it is necessary to integrate the water conservancy facilities, transform high-standard farmland, enhance rural biogas project, and increase agriculture-related project funding, to make drainage unobstructed and road layout reasonable; introduce new, suitable and efficient farm machinery, improve the level of seedling cultivation, and build high-standard demonstration tea plantations. (iii) Actively carrying out technical training. Based on "new occupational peasant cultivation project", "migrant training" and other projects, it is necessary to carry out technical training, organize management and technical personnel to learn the advanced management experience and success secret as well as advanced industrial technology and skills in the domestic famous tea enterprises; strengthen the training of professionals, strengthen scientific and technological services, and carry out various forms of technology services; actively carry out tea activities and strengthen tea business training. (iv) Unifying brand packaging of tea. According to market needs, it is necessary to choose pollution-free tea product packaging materials in strict conformity with the requirements of *National Food Safety and Health Law*. There is a need to perform unified packaging of Jiangtou tribute tea, improve packaging quality and practicality, focus on product quality and safety, increase the market share of the product and step up publicity efforts to promote Jiangtou tribute tea brand. (v) Promoting amusement and travel development. At present, only Jiangtou Ecological Agriculture Development Co., Ltd. is the provincial four-star leisure farm in Leiyang City, receiving 28000 tourists each year, and other tea leisure and tourism projects are in the initial stage. Leiyang should focus on promoting the tea culture, integrate leisure and tourism resources, continue to expand the scale of tea industry leisure farms, and actively develop tea tourism. (vi) Establishing

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get principal component analysis model of soil erosion resistance for three types of forest land:

$$Y_1 = 0.160x_1 - 0.154x_2 + 0.152x_3 - 0.170x_4 + 0.158x_5 + 0.162x_6 - 0.186x_7;$$

$$Y_2 = -0.313x_1 + 0.345x_2 + 0.353x_3 - 0.252x_4 - 0.326x_5 + 0.304x_6 - 0.048x_7.$$

Based on the weight of amount of information provided by the principal component, we calculate the composite scores of principal component and get the comprehensive evaluation function: $Y = 0.763Y_1 + 0.236Y_2$. It can be found that in terms of soil erosion resistance, the different types of forest land are sequenced in descending order of mixed broadleaf-conifer forest land (0.150) > eucalyptus forest land (0.127) > *Pinus yunnanensis* forest land (-0.0790), which further indicates that the mixed forests have better water loss and soil erosion control effect than pure forests.

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e-commerce platform. It is necessary to maintain the marketing capacity and production and processing capacity in order to play market-oriented effects. On the basis of store marketing, it is necessary to focus on developing e-commerce platform, implement online trading, and use television, newspapers, the Internet and other news media to improve the Jiangtou tribute tea brand awareness. There is also a need to develop the logistics platform and increase storage capacity. (vii) Building standard improved seed nursery. On the basis of tea varieties with the unique local characteristics, the new tea plantations in the city should increase the area of improved tea nursery and augment the annual output to meet the new seedling needs. (viii) Strengthening the organization and leadership. It is necessary to set up the Municipal Tea Industry Office which develops industry development plan and urges all relevant departments and township offices to carry out the work. It is necessary to support tea processing enterprises and supervise and assess the township tea industry office. (ix) Strengthening supportive policies. It is necessary to offer financial awards and discount loans for the links that can promote processing capacity, product design and brand building; conduct tea policy insurance pilot work to encourage businesses and households to participate in agricultural insurance and support the development of tea industry; accelerate the pace of certi-

fication and provide preferential tax policies to optimize the investment environment of tea industry. (x) Strengthening safety supervision. It is necessary to regularly carry out the city's tea testing, establish quality tracing files to strengthen quality and safety supervision, and publicize the testing results to ensure the city's tea production safety.

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