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# Study on the Production Benefit of Large-scale Tobacco Growers

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**Abstract** The tobacco growers with the growing area of greater than or equal to 100 mu, have become an important subject of tobacco production in Weng'an County of Guizhou Province. Regulating and developing the production and business activities of large-scale tobacco growers, plays an important role in stabilizing tobacco production, reducing costs and increasing efficiency in Weng'an County. Through the field survey of large-scale growers' production activities, this article analyzes the input and output levels, and explores the key factors influencing benefit, in order to provide a basis for further regulating the tobacco growing practices and improving the flue-cured tobacco production benefit.

**Key words** Large-scale tobacco growers, Production benefit, Key influencing factors

The large-scale production of tobacco (growing area greater than or equal to 100 mu) has become an important means to increase farmers' income<sup>[1-2]</sup>. The large-scale growers occupy only 2.6% of tobacco-growing subjects in Weng'an County, with tobacco growing area accounting for 24.2% of the total growing area, tobacco output accounting for 26.8% of total tobacco output, and output value accounting for 25% of total output value, indicating that the large-scale growers play an important role in stabilizing the tobacco production in Weng'an County.

By guiding the large-scale growers to regulate the production and business activities, it can help expand the demonstration effect<sup>[3-4]</sup>, promote the scale and standardization process of tobacco production, and solve the pesticide residues and other environmental issues<sup>[5-6]</sup>.

In the period 2012–2013, the staff of Weng'an Tobacco Company used field observations, interviews and other forms, to survey the input and output levels of large-scale growers, and analyze the key factors influencing the tobacco production benefit.

## 1 Research methods

**1.1 Survey location** Tianwen, Zhongping and Zhucang tobacco central stations in Weng'an County of Guizhou Province.

**1.2 Survey methods** Field observation and recording, interview and data access method.

**1.3 Statistical and analytical methods of information data**

**1.3.1** Through reading up the literature and screening, we carry out the statistical analysis of the information on the growing area, tobacco output and input of large-scale growers (growing area  $\geq 100$  mu).

**1.3.2** Through the field survey and interview, we carry out the statistical analysis of the level of input and output of large-scale growers from tobacco growing to marketing, and the key factors influencing the output efficiency.

## 2 Results and analysis

**2.1 Overview of the development of modern tobacco agriculture in Guizhou Province** Fig. 1 shows that the construction of modern tobacco agriculture base unit in Guizhou Province has experienced rapid development, with an average annual growth rate of 207% in the period in the period 2010–2013.

The large-scale growing and intensive development will become the main form of tobacco industry promotion in Guizhou Province.

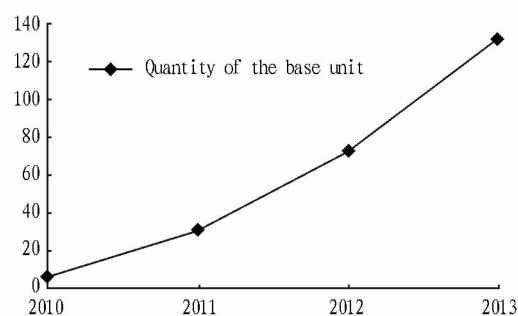


Fig. 1 The development of construction of modern tobacco agriculture base unit in Guizhou Province

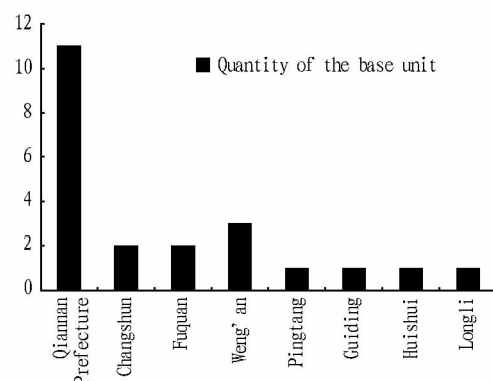


Fig. 2 The distribution of modern tobacco agriculture base unit in Qiannan Prefecture of Guizhou Province

Fig. 2 shows that there have been 11 tobacco agriculture base

units in Qiannan Prefecture of Guizhou Province, and the number of base units is 3 in Weng'an County, 2 in Fuquan County and 2 in Changshun County; the number of modern tobacco agriculture base unit built in Weng'an County is the greatest, with the advantages for the large-scale production of tobacco.

**2.2 Development of large-scale tobacco growers in Weng'an County** From Table 1, it is found that the large-scale tobacco growers experienced a rapid pace of development from 2010 to 2013; the number of growers continued to rise, and the growing area constantly climbed, with the growing area of 173.23 mu per grower.

Conspicuously, under the influence of the market economy, obtaining more economic benefits through large-scale cultivation, and the economies of scale, has become the consensus of more and more farmers.

The importance of large-scale tobacco growers to the tobacco production in Weng'an County should not be underestimated. As of 2012 (Table 2), the large-scale growers occupied only 2.6% of tobacco-growing subjects in Weng'an County, with tobacco growing area accounting for 24.2% of the total growing area, tobacco output accounting for 26.8% of total tobacco output, and

**Table 2 The overall development level of large-scale growers in 2012**

Items	Total number of large-scale tobacco growers	Total growing area//10 <sup>4</sup> mu	Total output// t	Total output value//10 <sup>4</sup> yuan
Large-scale growers	90	1.57	0.00722	3329.56
Total amount in Weng'an County	3477	6.50	0.02692	13297.36
Proportion of large-scale growers//%	2.6	24.2	0.0536	25.0

**2.3 Input – output analysis of large-scale tobacco growers**

According to the statistics on tobacco production in Weng'an County in 2012, both the yield and income of large-scale tobacco growers were lower than the overall level of Weng'an County, but the gross profit margin significantly exceeded the overall level of Weng'an County by 15.03% (Table 3).

**Table 3 The level of input and output per mu of large-scale growers in 2012**

Items	Costs yuan	Output kg	Total income yuan	Gross profit rate//%
The average of Weng'an County	2423.0	118.0	2714.4	10.73
Large-scale growers	1878.9	116.3	2530.9	25.76

Thus, the economies of scale brought by the large-scale cultivation mode have effectively integrated the manpower, materials, capital and management inputs during the tobacco production, and reduced the cost of production per mu, thereby achieving the purpose of enhancing efficiency.

However, the fact that the yield per mu and income of large-scale tobacco growers are lower than the overall level of Weng'an County indicates that the production and management behavior of large-scale tobacco growers is rough, with low degree of standardization and precision.

Therefore, it is necessary to guide the large-scale tobacco

output value accounting for 25% of total output value. It shows that:

- (i) The large-scale growers play an important role in stabilizing the tobacco production in the base unit, even Weng'an County;
- (ii) The improvement of production and management level of large-scale tobacco growers, can not only effectively help to promote the yield and output value of tobacco in Weng'an County, but also expand the demonstration effect, promote the standardization process of tobacco production, and solve the pesticide residues and other environmental problems, thereby creating huge comprehensive benefits.

**Table 1 Development trend of large-scale tobacco growers in Weng'an County**

Year	Total number of large-scale tobacco growers	Growing area// mu	Year-on-year growth rate of the growing area
2010	2	498	–
2011	24	3 980	699.2
2012	90	15 718	294.9
2013	106	18 362	16.8

growers to develop the standardized planting technology and standardized management capability, and further enhance the level of integration of production inputs and input and output efficiency, in order to benefit tobacco growers, and enhance the tobacco companies' management effectiveness and tobacco industrial utilization value.

**2.4 Analysis of the key factors influencing tobacco production**

By analyzing the survey data on the large-scale tobacco growers (see Table 4), it is found that the tobacco production costs include labor costs (52.5%), and material input costs (47.5%), which can be divided into 10 indicators; the proportion of tobacco production input cost to total cost averages 10%. The indicator "others" is the sum of random and short-term input in the production process, and other indicators are the definite production links or inputs. By comparison analysis, it is found that the indicators with input cost significantly higher than the average include tobacco curing and energy; the indicators with input cost close to the average include cultivation, grading, fertilizer and others; the indicators with input cost significantly lower than the average include film, field management, pesticides and transport.

Obviously, the tobacco curing link is the primary key factor influencing the output efficiency of large-scale tobacco growers; the secondary key influencing factors are cultivation, grading and fertilizer; the tertiary key influencing factors are film, pesticides,

transport and others.

The production equipment and technology of flue-cured tobacco in Weng'an County are still in phase of modern improvement, and some old and new ways coexist. There is no unified standard for the management of tobacco curing process, and the curing energy and manpower are greatly wasted, with low input effectiveness.

Table 4 The main cost structure of tobacco production

Indicators	Cultivation	Film	Field management	Tobacco curing	Energy	Grading	Fertilizer	Pesticides	Transport	Others
The share in the total cost//%	9.9	3.6	5.8	17.3	21.7	10.0	12.0	2.8	5.6	11.3

3 Conclusions and discussions

The survey and analysis results show that the large-scale tobacco growers in Weng'an County have become an important subject of tobacco production, and the main way for them to obtain economic benefits is to concentrate wide land, capital, labor, production materials and management and use economies of scale to reduce costs, thus yielding high economic benefit.

It indicates that the integration of tobacco market, human resources, capital and connections, can not only meet the interest needs of large-scale growers, but also promote the construction and development of modern tobacco agriculture [7].

However, the cost reduction arising from economies of scale is related to the complexity of production and management, and the integration of resources is on the premise that the management and supervision are effective, so that there are no the problems of confusion in the market, excess capacity, and production – income contradictions [8].

Therefore, during production process of large-scale growers, it is necessary to carry out fine management and standardized management, build the standard-based management system, and improve the resource input effectiveness and tobacco growers' human capital stock, to continue to improve the tobacco yield and quality, and reduce capital, goods and management costs.

By analyzing the production cost structure of large-scale tobacco growers, we divide the key influencing factors into three levels as follows:

- (i) The primary key influencing factor: Curing link of tobacco;
- (ii) The secondary key influencing factors: Cultivation, grading and fertilizer;
- (iii) The tertiary key influencing factors: Film, pesticides, transport and others.

The material and labor inputs to tobacco curing account for

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(From page 7)

low-income groups. Characterized by moderate guarantee, low premium, and simple underwriting and settlement of claims, the small amount insurance is an effective financial poverty-alleviation method.

In addition, energy is the only way to eventually form the quality of tobacco, and the curing process will greatly affect the flue-cured tobacco production results, so the tobacco farmers have strong willingness to invest. Therefore, regulating the process of the curing operation, and improving the input effectiveness of materials and labor, have become the key to enhancing the production benefit of large-scale tobacco growers.

39% of the total production costs, having the greatest impact on the production benefit of large-scale tobacco growers.

It is proposed to build the specialized curing service platform for the tobacco growers so as to facilitate the unified tobacco curing and process management; rely on the forms of cooperatives and companies to carry out the specialized curing services for the tobacco growers; improve the supporting equipments and technologies under the guidance of tobacco companies; carry out different forms of specialized tobacco curing services in various tobacco-producing areas according to the actual situation.

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