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Resource Allocation of Tobacco Production in Guizhou

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Abstract: *As the source of the whole tobacco industry, tobacco resources control the core of the whole tobacco industry chain, and its resource allocation determines the high-quality development of the tobacco industry. This paper studies and analyzes the current situation of tobacco production resource allocation in Guizhou from five aspects: the main body of tobacco production and planting, ecological conditions of tobacco planting, market demand, government support and company operation, which provides a research basis for improving the efficiency of tobacco production resource allocation in Guizhou.*

Keywords: *Tobacco, Tobacco Production, Resource Allocation*

1. Introduction

China's traditional tobacco industry has a long history. In recent years, it has carried out a series of simple transformation aiming at mechanization and centralization. However, it is still in a weak situation of low added value, low efficiency, high risk and low income. Although some individual exploration has achieved good results, it is at the cost of high investment and does not have popularization. The transformation and development of traditional tobacco is a comprehensive subject, involving the deep integration of system, technology, organization, management and other aspects. The improvement of the allocation efficiency of tobacco production resources is carried out on the basis of the development of traditional agriculture. It is a set of comprehensive reform and innovation, involving the deep integration of production relations and productivity. Compared with the simple transformation and development of traditional tobacco industry, it is more effective it has advanced, far-reaching and epochal characteristics, which provides a new opportunity for the upgrading of traditional tobacco leaves, and creates a new opportunity for tobacco production.

2. Literature Review at Home and Abroad

2.1 Literature Review at Home

In the mid-1990s, the tobacco sector and relevant experts and scholars have realized that the scale of tobacco planting is generally small, which is very unfavorable to the development of tobacco agriculture. They believe that it is necessary to scale tobacco production. After analyzing the problems and contradictions in the process of tobacco production moving towards market economy in Pingdingshan City, it is considered that large-scale planting is the only way out for tobacco production under the current policy system. Based on the investigation of five different tobacco planting patterns in six townships of Guiyang City, the results showed that the large-scale planting pattern was better than the scattered farmers planting pattern in cultivation management level, tobacco quality and yield performance, and the tobacco company + employees + science and technology park management pattern was the best. It was suggested that small-scale farmers should be limited, large-scale farmers should be controlled, and the moderate scale planting of tobacco should be developed. In view of the current situation that tobacco production in China is still in scattered cultivation, the specific contents of tobacco scale management were put forward, including regional layout, large-scale cultivation, commercialization of seedling raising, mechanization of production, scientific management, and specialization of curing. Four forms of tobacco scale cultivation were put forward, including large household centralized cultivation, tobacco regional cultivation, tobacco production cooperatives, and tobacco industry For tobacco production farm, we should provide policy guarantee for tobacco production scale management, strengthen the basic construction of tobacco field engineering, establish

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the basic protection system of tobacco field, implement the management mode of factory run base, establish the tobacco farmer organization mainly based on tobacco farmer cooperatives, establish the technology research and promotion system relying on research institutions, strengthen the construction of social service system, and actively promote tobacco insurance.

2.2 Literature Review at Abroad

Most of the tobacco production in Brazil is controlled by the government and the market in Zimbabwe, while most of the tobacco production in Zimbabwe is controlled by the government and the market. Generally, in foreign countries, the government will not directly interfere in the production and management of tobacco farmers, as well as the production objectives. Tobacco farmers will decide how much to plant by themselves. Although some government plans will restrict tobacco farmers' operation, these plans do not have a strong mandatory effect. Some countries, such as Brazil, Zimbabwe and so on, have no tobacco production plan. For the planting area of tobacco, the production is decided by the farmers themselves or the tobacco companies. The government will not interfere. The United States has passed relevant laws to protect the production of tobacco. In order to have greater competitiveness in the international market and not reduce the income of tobacco farmers, the government adopts the tobacco production control plan. The detailed practice is to use the market quota, which is the production level of different types of tobacco stipulated by the government.

3. Current Situation of Tobacco Production Resource Allocation in Guizhou Province

This paper mainly analyzes the current situation of tobacco production resource allocation in Guizhou through five aspects: the basic situation of the main body of tobacco production and planting, the basic situation of ecological conditions, the basic situation of market demand, the basic situation of government support and the basic situation of the company operation.

3.1 The Basic Situation of the Main Body of Tobacco Production and Planting

According to the relevant data analysis, the average age of tobacco growers in the province is 45.26 years old, the largest is 64 years old, the smallest is 25 years old, mainly concentrated in 40-50 years old, tobacco growers are generally older; the average tobacco planting period is 15.97 years; the average contract area is 37.67 Mu, the smallest is 8 mu, the largest is 140 mu, the contract area is mainly concentrated in 20-50 mu; the average number of plants per mu is 971; the average total output value is 13.0% The average output value per mu is 3468 yuan, the average net income per mu is 1645 yuan; the average income per household is 59600 yuan, the average income per capita is 32300 yuan; the average labor force per household is 1.95, and the average education level is close to junior high school.

(1) Analysis on the difference of planting scale in the whole province

From the area grouping, 0-20 mu, accounting for 20.65%; 20-40 mu, accounting for 41.3%; 40-60 mu, accounting for 23.7%; 60-80 mu, accounting for 8.6%; more than 80 mu, accounting for 15.3%. The main planting area is 20-40 mu.

The average age of the area group above 80 mu is the largest, significantly higher than that of the group below 60 mu; among the education background, the area group of 0-20 Mu is significantly higher than that of 60-80 mu, 80-100 Mu and above; the number of family labor force of 0-20 Mu is the least, significantly lower than that of 40-60 Mu and above 80 mu; the area group of 0-20 Mu has the least tobacco planting years, significantly lower than other area groups In terms of the number of plants, the average number of plants per mu of 80-100 Mu and above is the highest, followed by 0-20 mu, and there is no significant difference in the others. From different planting scale, the age of 0-20 Mu is the lowest, the age of 0-60 Mu is lower than 80 mu, and the age of 80 mu is the highest; the education of 0-20 Mu is the highest, and the education of 80 mu is the lowest, which indicates that the young and higher educated farmers choose the lower planting area, while the lower educated and older farmers choose the higher planting area.

(2)Analysis on the management factors and income of different planting entities in the whole province

The results showed that age was directly proportional to the contract area, number of plants, average number of plants per mu, output and total output value; education was inversely proportional to

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the contract area, number of plants, average number of plants per mu, output; the number of family labor force was significantly positively correlated with the contract area, number of plants, output and total output value; the number of tobacco planting years was positively correlated with the contract area, number of plants, average number of plants per mu, output and total output value. There is a positive correlation between contract area and output value.

Age is in direct proportion to the cost of employees and total cost; the number of family labor is in inverse proportion to the cost of land lease and net income per capita, but is in direct proportion to the average price, output value per mu, net income per mu and net income per household; the number of tobacco planting years is positively correlated with the cost of employees, income per household and net income per capita; the contract area is in direct proportion to the cost of land lease, cost of employees, total cost, income per household and net income per capita There is a positive correlation between output and land rental cost, labor cost, total cost, output per mu, output per mu, household income, per capita net income, and a negative correlation between output and material cost.

The results show that the total cost has a significant positive correlation with the land rental cost, material cost and labor cost, and the average price has a significant positive correlation with the land rental cost, labor cost and total cost; the average net income per mu has a significant negative correlation with the land rental cost, labor cost and total cost, and a positive correlation with the average price, output per mu and output per mu; the average output value per mu, net income per mu, household income and per capita net income have a significant positive correlation There is a positive correlation between them.

3.2 Basic Situation of Ecological Conditions for Tobacco Planting

The effects of ecological conditions on the allocation of tobacco production resources are mainly analyzed from three aspects: soil suitability, climate suitability and the proportion of high-quality tobacco fields.

(1) Basic situation of ecological conditions

According to the analysis of relevant data, the average score of soil suitability was 76.0889, with the highest score of 81.12 and the lowest score of 72.84; the average score of climate suitability was 93.3722, with the highest score of 99.39 and the lowest score of 82.14; the average proportion of high-quality tobacco fields was 84.7322%, with the highest proportion of 87.91% and the lowest proportion of 77.57%, as shown in Table 1. Compared with climate suitability score, soil suitability score fluctuates less and the data is more stable.

Table 1: Descriptive analysis of ecological conditions in the whole province

		Soil adaptability (score)	Climate adaptability(score)	Proportion of high quality tobacco fields (%)
Number of cases	Effective	9	9	9
	Invalid	0	0	0
Average value		76.0889	93.3722	84.7322
Mean standard error		.90371	1.77104	1.03726
Standard deviation		2.71112	5.31312	3.11179
Minimum value		72.84	82.14	77.57
Maximum value		81.12	99.39	87.91
Percentile	25	73.5650	90.8050	83.5250
	50	75.4200	93.2200	85.9200
	75	78.0800	98.1700	86.9100

(2) Statistical analysis on correlation of ecological conditions of tobacco planting in Guizhou

The proportion of high-quality tobacco fields was positively correlated with climate suitability, and highly correlated; the proportion of high-quality tobacco fields had no significant relationship with soil suitability, and there was no significant relationship between climate suitability and soil suitability.

Comprehensive correlation analysis, we can conclude that the proportion of high-quality tobacco field has the greatest impact on soil suitability, which is a positive impact. This also shows that when the proportion of high-quality tobacco field is higher, the soil suitability is correspondingly higher, and the climate suitability has the least impact on soil suitability, which is a positive impact. This also

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shows that when the climate suitability is higher, the soil suitability changes The results show that when the proportion of high-quality tobacco field is higher, the cli-mate suitability is higher, and the effect of soil suitability on climate suitability is the smallest, which is a positive effect. This shows that when the proportion of high-quality tobacco field is higher, the change of climate suitability will not be too significant The proportion of high-quality tobacco field had the greatest positive impact, which indicated that the proportion of high-quality tobacco field increased with the increase of climate suitability, and the soil suitability had the least positive impact on the proportion of high-quality tobacco field, which indicated that the proportion of high-quality tobacco field would not change significantly with the increase of soil suitability.

3.3 Basic Situation of Market Demand

By analyzing the data of order quantity, base unit quantity, base unit plan completion, counterpart allocation proportion, industrial quality evaluation, commercial quality evaluation, tobacco purchase quantity completion proportion, superior tobacco proportion, average price and other related indicators in recent five years, we can get the statistical results of tobacco planting market demand correlation in the whole province.

The number of base units has a positive correlation with the proportion and average price of superior tobacco, and a negative correlation with the proportion of counterpart allocation. It can be concluded that when the number of base units increases, the proportion and average price of superior tobacco will increase correspondingly, while the proportion of counterpart allocation will decrease with the increase of the number of base units; the industrial quality evaluation has a positive correlation with the commercial quality evaluation, and is related to the completion of tobacco purchase The results show that the higher the industrial quality evaluation, the higher the commercial quality evaluation, and vice versa. The higher the industrial quality evaluation, the lower the completion ratio of tobacco purchasing quantity. The negative correlation between the commercial quality evaluation and the completion ratio of tobacco purchasing quantity indicates that the completion ratio of tobacco purchasing quantity will decrease with the increase of commercial quality evaluation There was a positive correlation between the proportion of first-class tobacco and the average price, indicating that the average price would increase with the increase of the proportion of first-class tobacco.

3.4 Basic Information of Government Support

For the basic situation of government support, we mainly through the assessment to the township, the introduction of basic tobacco field protection policies, insurance investment accounted for the proportion of tax, infrastructure investment accounted for the proportion of tax, other investment accounted for the proportion of tax, the proportion of tax return to the township, management, staffing, support and other indicators of data analysis, so as to draw the conclusion of government support for tobacco planting The results of the relevant analysis.

There is a negative correlation between the proportion of tax return to villages and towns and the degree of support, which indicates that the degree of support will decrease with the increase of the proportion of tax return to villages and towns; there is a positive correlation between the management organization and the personnel allocation, which indicates that the higher the requirements of the management organization, the higher the personnel allocation will also in-crease correspondingly; the evaluation of villages and towns is related to the introduction of policies such as basic tobacco field protection, the proportion of insurance investment in tax revenue, and the basic income There is no significant relationship between the proportion of in-frastructure investment in tax, the proportion of other investment in tax, the proportion of tax re-turned to villages and towns, management institutions, staffing and support; the introduction of basic tobacco field protection and policy and the proportion of insurance investment in tax, the proportion of infrastructure investment in tax, the proportion of other investment in tax, the pro-portion of tax returned to villages and towns, management institutions, staffing and support There is no significant relationship between the support intensity.

3.5 Basic Situation of Company Operation

Through the analysis of the proportion of land transfer subsidies, professional service subsidies, fertilizer subsidies, pesticide subsidies, other material subsidies, premium tobacco subsidies and purchase subsidies, insurance investment, others (including demonstration, training, cultivation, promotion and disaster prevention), per capita labor efficiency, the proportion of stored tobacco, per

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capita sales cost of tobacco and per capita sales cost of tobacco The results are as follows:

In the multiple regression linear analysis of net income per mu, the proportion of land circula-tion subsidies affects the net income per mu, and the correlation coefficient is 0.102, so it can be concluded that the higher the proportion of land circulation subsidies, the higher the net income per mu; the proportion of other materials subsidies also affects the net income per mu, and the correlation coefficient is 0.062, so it can be concluded that the proportion of land circulation subsidies also affects the net income per mu It can be concluded that when the proportion of other material subsidies is higher, the net income per mu is higher; the per capita sales income of tobacco also affects the net income per mu, and the correlation coefficient is 0.410, so it can be concluded that when the per capita sales income of tobacco is higher, the net income per mu will be higher; and the total cost of tobacco (the three expenses of tobacco) also affects the net income per mu, and their correlation coefficient is 0.410 It can be concluded that when the total cost of tobacco (three tobacco costs) is higher, the net income per mu will also be higher; the proportion of professional service subsidies, superior tobacco subsidies and purchase subsidies, insurance investment, and the proportion of stored tobacco also affect the net income per mu, and they have negative effects, with the standardization coefficients of -0.248 and -0.165 respectively It can be concluded that when the proportion of professional service subsidies, high-quality tobacco subsidies, purchase subsidies and insurance investment decreases, the net income per mu will increase; the proportion of net income per mu and fertilizer subsidies, pesticide subsidies, others (including demonstration, training, cultivation, promotion and disaster prevention), per capita labor efficiency, per capita sales cost of tobacco leaves, and per capita consumption cost of tobacco leaves will increase There is no correlation among the three expense rates.

In the multiple regression linear analysis of the average household income, the proportion of land circulation subsidies affects the average household income, and the correlation coefficient is 0.036. It can be concluded that the higher the proportion of land circulation subsidies, the higher the average household income will be; the proportion of other material subsidies also affects the average household income, and the correlation coefficient is 0.007 When the proportion of other material subsidies is higher, the average household income will also be higher; and the total cost of tobacco (three tobacco costs) also affects the average household income, which is a positive effect, and the correlation coefficient is 0.147. It can be concluded that when the total cost of tobacco (three tobacco costs) is higher, the average household income will also be higher; while the proportion of professional service subsidies, high-quality tobacco subsidies and purchase subsidies The proportion, insurance investment proportion, tobacco stock proportion and per capita sales income of tobacco also affect the per capita income, and they have a negative impact, with the standardization coefficients of -0.503, - 0.010, 737, - 0.241 and -0.021, respectively However, there is no correlation between the average household income and the proportion of fertilizer subsidies, pesticide subsidies, others (including demonstration, training, cultivation, promotion and disaster prevention), per capita labor efficiency, per capita sales cost of tobacco leaves, and the three expense rates of tobacco leaves.

In the multiple regression linear analysis of per capita net income, the proportion of land transfer subsidies affects the per capita net income, and the correlation coefficient is - 0.074. It can be concluded that the higher the proportion of land transfer subsidies, the lower the per capita net income; the proportion of professional service subsidies also affects the per capita net income, and the correlation coefficient is - 0.371, It can be concluded that the higher the proportion of specialized service subsidies, the lower the per capita net income; the proportion of other material subsidies also affects the per capita net income, and the correlation coefficient between them is - 0.189, so it can be concluded that the higher the proportion of other material subsidies, the lower the per capita net income; and the proportion of insurance investment and the proportion of stored tobacco also affects the per capita net income The standardized coefficients are -0.522 and -0.269, respectively. It can be concluded that when the proportion of insurance investment and the proportion of stored tobacco leaves decrease, the per capita net income will increase corre-spondingly; while the proportion of superior tobacco subsidies and purchase subsidies, per capita sales income of tobacco leaves, and the three expense rates of tobacco leaves also affect the per capita net income, and they have a positive effect, with the correlation coefficient of - It is 0.255, 0.050 and 0.394, respectively. It can be concluded that the higher the proportion of top-grade tobacco subsidies and purchase subsidies, the per capita sales income of tobacco, and the three expense rates of tobacco, the higher the per capita net income will be. There is no correlation between the per capita net income and the proportion of fertilizer subsidies, pesticide subsidies, others (including demonstration, training, cultivation, promotion, disaster prevention), per capita labor efficiency, per capita tobacco sales cost, tobacco three expense rates, etc.

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4. Summary

On the whole, although the tobacco planting area in Guizhou ranks the top two in China, the karst landform of Guizhou Province determines the dispersion of tobacco planting area, and because of the dispersion is too significant, the use of some mechanical equipment cannot play a very good role. The supply of tobacco mainly depends on the cultivation of tobacco farmers. The decrease of farmers planting tobacco means that the supply of tobacco is decreasing year by year. If the output of tobacco is small, the price of per unit area yield will increase, the competitiveness of tobacco farmers will be small, and the quality will naturally show a downward trend. Therefore, the quality of tobacco will also change with the change of tobacco market. The economic development of Guizhou Province is relatively backward, some effective planting management methods are not applied to the actual planting action, the personnel quality is relatively low, the management method is relatively backward, and the infrastructure and equipment used in the tobacco planting process are poor. The tobacco in Guizhou Province is mainly planted in the family, mostly using the original and traditional planting methods, and using conventional technology, rarely promoting the use of new technology.

Based on the in-depth analysis of the main body of tobacco production and planting, ecological conditions of tobacco planting, market demand, government support and company operation in Guizhou, this paper has a biological understanding and Research on the current situation of tobacco production resource allocation in Guizhou, which provides a good research basis for improving the efficiency of tobacco production resource allocation in Guizhou, and can effectively improve the high-quality development of tobacco production in Guizhou Exhibition.

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References

[1] Mary Assunta.Tobacco industry's ITGA fights FCTC implementation in the Uruguay negotiations [J]. Tobacco Control,2012
[2] C. S. Lakshmi Tobacco Growers' One-Point Programme[J] Economic and political weekly,1981
[3] David G. Altman;Daniel J. Zaccaro;Douglas W. Levine;David Austin;Carol Woodell;Betty Bailey; Michael Sligh;Gerry Cohn;James Dunn Predictors of Crop Diversification: A Survey of Tobacco Farmers in North Carolina (USA)[J] Tobacco Control,1998
[4] Raul Mejia,Verónica Schoj,Joaquin Barnoya,María Laura Flores,Eliseo J. Pérez-Stable.Tobacco industry strategies to obstruct the FCTC in Argentina[J]. CVD Prevention and Control. 2008(4)
[5] E. Reid-Musson. Historicizing precarity: A labour geography of ‘transient’ migrant workers in Ontario tobacco [J]. Geoforum.2014
[6] Jinglin Liu.On the four elements of resource allocation [J].Learning and exploration,2015: 47-53.
[7] Yunping Zhang,Haiyan Jiang.The reform of tobacco management system in Japan and Its Enlightenment to the reform of tobacco monopoly system in China [J].Theory Journal,2020,(9):19-20.
[8] Guanglei Li, Fenglei Chen, Jiajun Li etc. Thinking about the cultivation of new tobacco business subject under the new situation [J].Chinese Journal of tobacco,2019,25(4):118-123.

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Table 2: Correlation Analysis of market demand in the whole province

	Order volume in recent five years (ten thou-sand units)	Number of base units	Comp-lection of base unit plan	Base unit hierarchy (%)	Counterpart allocation ratio (%)	Industrial quality evaluation(score)	Business quality evaluation(score)	Completion ratio of tobacco leaf purchase (%)	Proportion of first class smoke (%)	average price (RMB/unit)
Order volume in recent five years (ten thou-sand units)	1	0.502	-0.093	-0.136	-0.398	0.135	0.195	-0.301	0.169	0.266
Number Of base units		1	-0.179	0.322	-.692*	0.467	0.295	-0.45	.717*	.802**
Comp-lection of base unit plan(score)			1	-0.371	0.064	-0.273	0.024	0.432	-0.151	-0.038
Base unit hierarchy (%)				1	-0.184	-0.049	0.056	-0.208	0.551	0.503
Counterpart allocation ratio (%)					1	-0.104	0.098	0.079	-0.483	-0.498
Industrial quality evaluation(score)						1	.783*	-.845**	0.598	0.539
Business quality evaluation(score)							1	-.879**	0.425	0.406
Completion ratio of tobacco leaf purchase (%)								1	-0.499	-0.44
Proportion of first class smoke (%)									1	.974**
average price(RMB/unit)										1

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Table 3: Correlation analysis of government support in the whole province

	Assessment to villages and towns (score)	Basic policies on tobacco field protection were introduced(score)	Proportion of insurance investment in tax revenue (%)	Proportion of infrastructure investment in tax revenue (%)	Proportion of other input in tax revenue (%)	Proportion of tax returned to villages and towns (%)	Management organization (score)	Staffing (score)	Support strength (score)
Assessment to villages and towns (score)	1	a	-0.49	0.112	-0.224	0.184	0.395	0.395	-0.316
Basic policies on tobacco field protection were introduced(score)		a	a	a	a	a	a	a	a
Proportion of insurance investment in tax revenue(%)			1	0.623	0.119	0.326	0.049	0.049	0.275
Proportion of infrastructure investment in tax revenue(%)				1	-0.316	0.419	0.101	0.101	0.101
Proportion of other input in tax revenue(%)					1	0.573	0.347	0.347	-0.378
Proportion of tax returned to villages and towns(%)						1	0.317	0.317	-.693*
Management organization(score)							1	1.000**	-0.125
Staffing(score)								1	-0.125
Support strength (score)									1

Note: a means that at least one variable is constant. Since the basic policy indicators such as tobacco field protection are all 1 point, it cannot be calculated.