

Study on the Cultivation Problems and Strategies for New Professional Tobacco Farmers in China

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Abstract At present, there are still many difficulties in China's tobacco farmers, such as unreasonable age structure, generally low education level, lack of management ability, and low planting efficiency. It is necessary to cultivate new professional tobacco farmers. Based on the practical problems existing in the cultivation of professional tobacco farmers in China, such as vague screening criteria, lack of pertinence in training content, single training mode, immature evaluation system, insufficient follow-up support and unsystematic cultivation mechanism, this study put forward corresponding strategies and suggestions.

Key words Tobacco leaves, New professional tobacco farmers, Cultivation

1 Introduction

The cultivation of professional tobacco farmers is of great significance to the construction of modern tobacco agriculture. Due to the limited income and low sunk cost of traditional tobacco farmers, it is easier to affect tobacco production when the external environment changes greatly, thus affecting the stability of tobacco farmers. The essential difference between professional tobacco farmers and traditional tobacco farmers is that professional tobacco farmers take tobacco production as their own livelihood, take tobacco income as the main source of income for their families, and upgrade tobacco production from traditional farming behavior to agricultural industry management behavior. Professional tobacco farmers are the main body of new tobacco production and management, who are well-educated, honest, and proficient in technology, management, and operation. Professional tobacco farmers usually pay more attention to sustainable operating profits, so they are more inclined to improve their professional skills and management level, and have stronger tolerance and resistance to natural risks and market risks, which is more conducive to the stability of tobacco farmers in the long run. Therefore, how to strengthen the cultivation of new professional tobacco farmers in China and continuously improve the professional skills and management level of new professional tobacco farmers is a problem that needs to be studied.

2 Necessity of strengthening the cultivation of new professional tobacco farmers

"Stabilizing core tobacco areas and core tobacco farmers" is

an important goal and task of tobacco production in China. The stability of core tobacco areas requires the stability of tobacco yield and quality, and in the final analysis, the stability of core tobacco farmers. Doing a good job in cultivating new professional tobacco farmers is not only the requirement of implementing the central policy, but also the need of conforming to new situation of industry development and promoting tobacco farmers' development.

2.1 The need to implement the central government's policy of cultivating new professional tobacco farmers In 2012, the No. 1 Document of the Central Committee of China put forward the concept of "new professional farmers" for the first time, and called for "vigorously cultivating new professional farmers". Subsequently, every year, the No. 1 Document of the Central Committee put forward the development requirements of vigorously cultivating new professional farmers, and cultivating professional farmers into the leading force of modern agriculture. In 2023, the No. 1 Document of the Central Committee further emphasized the need to "implement the plan of cultivating high-quality farmers".

2.2 The need to comply with the new situation of tobacco industry development In recent years, China's tobacco purchasing plan has been gradually regulated. While the tobacco purchasing plan has been continuously reduced, the relative income from tobacco planting has been slowly improved. With the accelerated adjustment of rural industrial structure, the phenomenon of "competing for land and workers" between agriculture and tobacco industry is widespread in many tobacco-growing areas, the comparative advantage of tobacco planting is declining day by day, and many tobacco farmers gradually withdraw from the tobacco industry chain. In 2015, the number of tobacco farmers in China was 1.502 million, and in 2022, there were only 724 300, which decreased by 52% in just a few years. "Who will grow tobacco" has also become an important problem for the sustainable development of tobacco production. Only by solving the problem of "who will grow tobacco" can the problem of "how to grow tobacco well" be

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solved. If the main body of tobacco can not be stabilized, the yield and quality of tobacco leaves will inevitably fluctuate greatly. The new professional tobacco farmers regard tobacco planting as their own occupation with great stability, they are more likely to pay attention to the long-term benefits of tobacco planting, which is conducive to the popularization and application of facilities and technologies such as water conservancy and soil conservation in tobacco fields, and is conducive to the sustainable development of tobacco production.

2.3 The need to transform traditional tobacco farmers to new professional tobacco farmers The premise for tobacco farmers to pursue profit maximization is that tobacco planting must reach a certain scale. With the reform and implementation of land transfer system, the opportunities for tobacco farmers to obtain contiguous land have increased compared with the past. With the increase in tobacco planting scale, the realization of scale benefit is a problem that tobacco farmers must solve in production and management. It is difficult to match the professional technology and management ability needed by traditional tobacco farmers and tobacco planting scale, so it is necessary to continuously improve the management and anti-risk ability of tobacco farmers through education and training, policy support and other cultivation methods, improve the specialization degree of tobacco production, and take the road of professional development.

3 Analysis of the predicament of traditional tobacco farmers

3.1 Unreasonable age structure of traditional tobacco farmers The unreasonable age structure of tobacco farmers is an important constraint factor for tobacco development in most tobacco-growing areas of China. According to the survey in Henan tobacco-growing areas, the proportion of tobacco farmers aged 41 – 60 years in Henan is as high as 75.5%, and the proportion of tobacco farmers aged 20 – 30 years is only 1.2%. "The generation after 70s unwilling to plant, the generation after 80s incapable of planting, and the generation after 90s even reluctant to talk about planting" is the current situation of tobacco farmers^[1]. The tobacco farmers in Fengjie County, Chongqing City are mostly 40 – 60 years old, accounting for 72.3%, while the proportion of tobacco farmers aged 20 – 40 years is only 6.48%^[2]. Only 2.59% of tobacco farmers in Longxian County of Shaanxi Province are under 30 years old, and the proportion of tobacco farmers aged 40 – 60 years is as high as 82.3%^[3]. According to the survey data of different scholars, the aging problem of Chinese tobacco farmers is outstanding. Young and middle-aged tobacco farmers need to shoulder the heavy responsibility of supporting their families, and have higher demands for the income of growing tobacco. They usually have more advantages in physical fitness and knowledge and skills acceptance, and the effect of participating in the cultivation of professional tobacco farmers is better^[4]. The proportion of

young and middle-aged tobacco farmers under 40 years old is too small, and the reserve force of tobacco farmers is insufficient, which seriously affects the sustainable development of tobacco production.

3.2 Generally low education level of traditional tobacco farmers Tobacco farmers with higher education level have a higher understanding and mastery degree of tobacco production training content, and can better participate in vocational training^[4]. The overall education level of Chinese tobacco farmers is low, which affects the effect of vocational training. According to the survey data of many scholars, the education level of Chinese tobacco farmers is mostly concentrated in primary schools and junior high schools. According to the survey data of Zunyi tobacco-growing areas, only 8% of tobacco farmers received high school education, and the tobacco farmers with primary school and junior high school education account for 78% of the total respondents^[5]; 89.76% of tobacco farmers in Fengjie County, Chongqing City received primary school or junior high school education^[2]; the proportion in Shaoyang City has reached 90.8%^[6]; the proportion in Henan tobacco-growing areas is slightly smaller, but 79% of tobacco farmers received junior high school education or below, and less than 21% received high school education^[1].

3.3 Lack of operation and management ability of traditional tobacco farmers The transformation from traditional agricultural producers to new agricultural operators puts forward higher requirements for farmers' business philosophy and management ability. However, Chinese tobacco farmers generally lack management ability, which is reflected in financial accounting, agricultural materials management, personnel management, risk control and other aspects. The concept of "live at the mercy of the elements" still goes deep into tobacco farmers' mind, which may make tobacco farmers attribute their harvest to climate, while ignoring the influence of human factors such as technology and management. The vast majority of tobacco farmers recognize the importance of production management system, but there is a lack of system in specific production. They pay more attention to production technology related systems than financial accounting, agricultural materials management, personnel management, risk control and other management systems, and lack the concept of operation and management^[7].

3.4 Low benefit of tobacco planting With the improvement of the overall production technology of tobacco leaves in China, the yield per unit area of tobacco leaves has gradually stabilized at a higher level, and the purchase price of tobacco leaves has increased slightly year by year, which makes the output value per unit area of tobacco leaves show an increasing trend in the long run. But at the same time, the cost of tobacco planting continues to rise with the increase in land, materials and labor prices. This also leads to annual fluctuations in tobacco planting profits, especially in recent years.

4 Problems in the cultivation of professional tobacco farmers

4.1 Vague screening criteria of professional tobacco farmers

Tobacco farmers are quite different in age, education level, technical mastery, *etc.*, and their business needs and learning abilities are also different. Some tobacco-growing areas have not formulated clear screening criteria for professional tobacco farmers, but let all tobacco farmers participate in training, which is difficult to achieve the expected results^[8-9]. Starting from the cultivation quality and efficiency, tobacco farmers with professional production and management potential need to meet certain standards. In the screening of professional tobacco farmers, besides their age and education level, they should also consider their planting scale and continuous planting years of tobacco leaves. The learning ability and acceptance of new things of tobacco farmers are equally important^[10-11].

4.2 Lack of pertinence in the training content of professional tobacco farmers

In some tobacco-growing areas in China, it lacks research in the early stage for the training of professional tobacco farmers, the needs of tobacco farmers are not fully understood, and the ability of tobacco farmers is not accurately grasped, which leads to complicated and disorderly training content, lack of pertinence and systematicness, poor training effect and difficulty in meeting the needs of tobacco farmers^[12]. Xi Hongang *et al.* believe that vocational training should enable tobacco farmers to master two aspects of knowledge and technology: the first is to master the related technologies of cultivating strong seedlings, balanced fertilization, mature picking and scientific curing to achieve the goal of tobacco leaf quality; the second is to let tobacco farmers master new production methods and organize production, so that tobacco farmers can take the road of industrialization, large scale and intensive production^[1]. The research of Cheng Jun complements the relevant training objectives on mechanization and informationization^[11].

At present, the training of professional tobacco farmers focuses on the production technology of tobacco leaves, and the training in management ability, operation skills of modern agricultural machinery and facilities, and interpretation of agricultural and tobacco industry policies is extremely lacking^[13].

4.3 Single cultivation mode of professional tobacco farmers

At present, the cultivation method of professional tobacco farmers in China is mainly classroom lecture organized by tobacco companies or tobacco farmers' cooperatives. The relatively single training methods and relatively scarce training teachers make the quality of professional tobacco farmers' training not high. The training of tobacco companies mostly focuses on agricultural theory, and it is not easily understood and has poor flexibility, which easily makes the trainees feel boring and leads to a great reduction in effect^[12]. The training organized by tobacco farmers' cooperatives mostly chooses tobacco farmers with relatively rich local planting experi-

ence. Although they have a good level of tobacco planting, the training methods are relatively extensive and simple due to insufficient theoretical knowledge and lack of teaching skills^[9]. A few tobacco-growing areas adopt the way of cooperation with vocational school to establish a special professional tobacco farmer training team, but it is still in the exploratory stage^[14].

4.4 Immature evaluation system of professional tobacco farmers

All tobacco-growing areas in China have explored the evaluation system of tobacco farmer cultivation. Shaxian County, Sanming City adopts star rating to assess tobacco farmers, scores the training and planting situation of tobacco farmers every year, and divides tobacco farmers into five grades according to the score gradient. For high-grade tobacco farmers, the contract plan support strategy is adopted^[15]. In Shaoyang tobacco-growing areas, tobacco farmers who meet certain conditions apply to cooperatives for evaluation of professional tobacco farmers. After being screened and reported by cooperatives, the Professional Tobacco Farmers Evaluation Committee (composed of tobacco departments, cooperatives and tobacco farmers' representatives) is responsible for house-to-house assessment and screening, and finally determines whether they can be rated as professional tobacco farmers^[6].

However, as a whole, a mature and complete evaluation system for professional tobacco farmers has not yet been formed in various tobacco-growing areas in China. Yunnan Province has initially formed the evaluation standard and star rating system of professional tobacco farmers, providing more support and subsidies to tobacco farmers with high star rating through dynamic management, and promoting the planting enthusiasm of tobacco farmers^[14]. However, some scholars believe that the evaluation system of professional tobacco farmers in Yunnan is general and unreasonable, and still not perfect^[8].

4.5 Insufficient follow-up support for vocational tobacco farmers' training

Most tobacco-growing areas in China have the problems of scattered residence and inconvenient transportation. The lack of follow-up support for cultivation and the lack of practical incentives make it difficult to realize the continuity of training and affect the cultivation effect. Whether there is follow-up service after the training and whether the service content is reasonable reflects the systematicness and responsibility of the training.

Cheng Jun believes that it is necessary to provide follow-up services for professional tobacco farmers' training. For example, after curing training, it is necessary to lead curing experts to give on-the-spot guidance, and always pay attention to the tobacco farmers' feedback on curing problems^[11].

4.6 Lack of a systematic cultivation mechanism for professional tobacco farmers

The cultivation of professional tobacco farmers in China still mostly stays at the level of production and planting, and has not yet formed a relatively systematic cultivation mechanism^[13]. Regarding the establishment of professional tobacco

co farmers' cultivation mechanism, Li Zhengxiang *et al.*^[14] put forward the cultivation mode of professional tobacco farmers in Yunnan. Sun Zhi *et al.* believe that the standards of professional tobacco farmers should be clarified, an assessment mechanism should be established, and dynamic management should be implemented^[16]. Wang Wei *et al.* believe that it is necessary to formulate a perfect cultivation plan from the aspects of the number of people cultivated, the scope of cultivation, the content and methods of training courses^[8]. Zou Kai *et al.* put forward that local tobacco companies should be the main body, cooperatives should be regarded as the main implementing institutions for cultivating professional tobacco farmers, it is necessary to follow the principles of "industry guidance, voluntary tobacco farmers, strict standards and dynamic management", and build a long-term cultivation mechanism based on four dimensions of "government guidance, tobacco support, cooperative implementation and tobacco farmers' participation"^[6]. Some tobacco-growing areas have issued policy documents on the management of professional tobacco farmers, but on the whole, the related subject functions of professional tobacco farmer cultivation have not been clarified.

5 Strategies for cultivating professional tobacco farmers

5.1 Setting the screening criteria for professional tobacco farmers according to local conditions In related research, the criteria for screening tobacco farmers for vocational cultivation include appropriate age, strong ability to accept new knowledge, moderate and stable planting area, planting experience and high technical level, joining cooperatives, perfect curing facilities, high loyalty to tobacco, honesty and trustworthiness, *etc.*^[3, 15].

According to local conditions, each tobacco-growing area should set screening criteria in line with the actual situation of local tobacco farmers from six aspects: first, the age of tobacco farmers is moderate, preferably under 40 years; second, tobacco farmers have received a certain education, and the best education level is high school or above; third, the planting area of tobacco farmers is stable and on a local medium scale and above; fourth, they have certain social influence among local tobacco farmers; fifth, they have certain planting experience and better production technology; sixth, they can operate in good faith.

5.2 Designing training content based on improving tobacco farmers' comprehensive ability Before training, it is necessary for tobacco-related departments to conduct sufficient research, and then formulate scientific, feasible and targeted training contents and plans, and use training resources where tobacco farmers need them to improve the efficiency and effectiveness of training. On the whole, the training content can be designed based on the improvement of abilities in three aspects: the first is the production technical ability, including the agricultural production technology of tobacco leaf production links such as seedling raising, ridging,

transplanting, field management, harvesting, curing and grading; the second is the ability of management, involving business philosophy, financial management, risk control, personnel management, agricultural resources management, *etc.*; the third is ideological and moral quality, including honesty consciousness and example consciousness.

5.3 Establishing a multi-functional science and education platform for professional tobacco farmers The training of professional tobacco farmers needs the effective combination of theoretical knowledge and actual production, and full understanding of the local tobacco planting situation and tobacco farmers' needs on the basis of in-depth investigation, so as to enrich the training side. We can promote the training effect and arouse the enthusiasm of tobacco farmers by means of brochures, lectures, field guidance, and even grading competitions. We can also establish a multi-functional and integrated science and technology education organization platform for professional tobacco farmers, make full use of the Internet for distance education and training, establish WeChat management platform, tobacco farmers' online school, *etc.*, regularly publish return questionnaires, collect tobacco farmers' feedback and suggestions on training, and improve service efficiency and service quality.

5.4 Tracking and managing professional tobacco farmers with the help of mobile information service platform It is necessary to establish special mobile information service platforms including tobacco farmers' online school, APP and WeChat mini applets, and update personalized service sections such as relevant policy changes, weather information, online inquiry window, excellent professional tobacco farmers' information and tobacco planting experience sharing from time to time, so as to promote the professional ability of tobacco farmers. On this basis, we can further access the electronic files of tobacco farmers, and know the changes of tobacco farmers' ability and quality in time through basic knowledge questions and answers, skill quizzes, *etc.*, which is helpful in tracking and managing professional tobacco farmers.

5.5 Establishing a dynamic evaluation mechanism for professional tobacco farmers based on electronic records The evaluation and management of professional tobacco farmers should follow the principle of "industry guidance, voluntary tobacco farmers, strict standards and dynamic management", and be implemented according to the process of "tobacco farmers' application-tobacco technicians' recommendation-tobacco workstation's preliminary examination-tobacco companies' examination and evaluation", and establish professional tobacco farmers' records including technical implementation, contract performance and production facilities^[6]. In addition to establishing tobacco farmers' training records, quantitative assessment and refined management of tobacco farmers' learning status and practical achievements, we should also pay attention to appraisal and reward, and give material rewards or special interviews to professional tobacco farmers with outstanding performance to enhance their sense of happiness

and honor^[17].

For the evaluation of professional tobacco farmers, based on the establishment of electronic records of tobacco farmers, tobacco farmers can be cultivated, tracked and dynamically managed from four dimensions: the first is basic information, mainly including planting area, yield, quality, output value, cost and other basic information of tobacco production and management; the second is the training record, mainly including the time, place, content and other information related to tobacco farmers participating in the training; the third is the training effect data, and we can grasp the tobacco farmers' mastery of the training content and the actual application effect mainly by means of examination papers, questionnaires, evaluation and production return visits, so as to facilitate feedback and correction of the training contents and methods; the fourth is the incentive and support information, mainly including the relevant data of various kinds of cash, material subsidies, honors and other spiritual incentives enjoyed by tobacco farmers.

6 Conclusion

At present, there are still many problems in the team of tobacco farmers in China, and the cultivation of new professional tobacco farmers has a long way to go. With the cooperation of all functional subjects, we should establish a scientific cultivation system, build a comprehensive service platform, and plan and design a concise and efficient cultivation process, which is helpful in cultivating a group of qualified professional tobacco farmers. We should further give full play to the role of qualified professional tobacco farmers in leading traditional tobacco farmers, and continuously expand the ranks of professional tobacco farmers, so as to promote the stability of tobacco yield, quality and tobacco planting benefits in tobacco-growing areas and realize the sustainable development of tobacco production.

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