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Influencing factors and countermeasures of training willingness of high-quality farmers in Jiangxi, China

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Abstract: This paper studies the factors influencing the training willingness of high-quality farmers, which is of great significance to improve the training efficiency. Through face-to-face interviews with 18 farmer trainees and online surveys of 514 farmer trainees, It was found that training content, training service and farmers' perception of training policy had significant impact on training willingness. However, demographic factors such as gender, age, education level, Agricultural post and previous farm income had insignificance on training intention. On this basis, countermeasures and suggestions were put forward from three aspects to improve the training willingness of high-quality farmers. Through pre-training demand survey, precise training content was proposed. Optimizing the training service and improving the satisfaction of training service, and improving policies and systems to protect the interests of farmers participating in training can be meaningful to enhance the internal motivation of farmers to actively participate in education and training.

Keywords: *Countermeasures, High-quality Farmers, Influencing factors, Training intention,*

1. Introduction

Whether it is a country with a large population or a small population, the problem of feeding more than 7 billion people in the world is a common concern of all countries in the world (Fróna et al., 2019). China is the country with the largest population in the world, accounting for one quarter of the world's total population （Akimov et al., 2021). Therefore, the Chinese government attaches great importance to China's agriculture, rural areas and farmers (Zhang, et al., 2023).

The implementation of national strategies such as rural revitalization, common prosperity and Chinese-style modernization focuses on rural areas and relies on farmers. National policy documents such as the Strategic Plan for Rural Revitalization (2018-2022) in 2018, the Proposal of the Central Committee of the Communist Party of China on Formulating the 14th Five-Year Plan for National Economic and Social Development and the 2035 Vision Goals in 2020, and the No. 1 Document of the Central Committee in 2024 all emphasize improving the effectiveness of farmer education and training from the top-level design level. It is required to activate the subjectivity, enthusiasm and creativity of farmers, and stimulate the endogenous power of farmers to promote the development of modern agriculture and rural revitalization. The rural population structure imbalance caused by the outflow of young and middle-aged people makes the rural revitalization face the dilemma of lack of subjectivity and insufficient internal power. It is necessary to focus on those key groups that can effectively organize and integrate various rural production factors, connect with external market resources, and undertake the task of rural development to provide endogenous power support for rural revitalization. High-quality

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farmers are the core group produced by the internal differentiation of farmers in the new era. They have comparative advantages in age structure, education level, operation scale and production skills, and can drive the development of small farmers through appropriate scale operation, form a mutually supportive rural social structure with rural left-behind people, and are the internal effective force and key subject of rural revitalization.

Farmer training has always been a concern of academic circles and farmer training institutions. Especially since the No. 1 document of the Central Committee proposed "Vigorously Cultivating New Professional Farmers" in 2012, scholars have carried out researches on the connotations, breeding policies (Dong, 2021), breeding experience (Hu & Li, 2023) breeding status (Qin & Yang, 2020), breeding mode (Li & Li, 2023), and breeding strategy (Wang, 2022) of new professional farmers (Wei & Liu, 2013) and high quality farmers (Li, 2021). A wealth of research results have been obtained. With the deepening of the research and the promotion of the national cultivation practice of new professional farmers and high-quality farmers, practitioners and scholars began to reflect on the effect of farmer training (Mgendi et al., 2022; La Mema et al., 2023; Yue et al., 2023; Ochago et al., 2024), hoping to improve the efficiency of farmer training through research. Scholars proposed strategies to improve the efficiency of farmer training through the requirements of rural revitalization and modern agricultural development for farmers' quality (Li & Liu, 2021; Chen et al.,2022; Liu et al., 2022; Bin & Qiong 2024). The lack of farmers' learning motivation and willingness to participate in training are the main factors restricting the effectiveness of farmer cultivation in practice (Xiong & Shi, 2022). To improve the training efficiency, it is also necessary to deeply explore the factors affecting the training willingness of high-quality farmers, fully activate and give play to the endogenous motivation of farmers, and make them change from "passive acceptance" to "active participation", which is the main issue of improving the efficiency of farmer training, and also the key issue of farmer training research.

2. Literature Review

Through the collation of existing relevant research literature, it is found that scholars' research on the influencing factors of high-quality farmers' training willingness mainly focuses on the following aspects:

From the perspective of personal characteristics, scholars mainly focus on gender, age, education level and other influencing factors. Women are more willing to participate than men, and age is negatively correlated with willingness but not significantly, while literacy and willingness to participate are positively correlated (Zhang & Zhang, 2019; Lei et al., 2024; Pandey et al., 2024; Tufa et al., 2024). Training subject, training object and training environment, and believed that age had a negative impact on training intention (Ulhaq et al., 2022; Landmann et al., 2021), men had a higher participation intention than women, and education level had a positive impact on participation intention (Li, 2022; Muhaimin et al., 2023; Zaremohzzabieh et al., 2022; Muhammad et al., 2024).

From the perspective of the characteristics of the supply of training subjects, the research mainly focuses on the influencing factors such as the content, mode, teachers and service of training. Training on low fees, breeding technology and sales management knowledge can significantly improve farmers' willingness to participate (Gi, 2020; Pan & Guo, 2020). The training content and method had a significant impact on farmers' willingness, and practical training content and the training method combining theory and practice were more popular (Luo et al., 2022; Deh-Haghi et al., 2020; Degieter et al., 2023; Wagner et al., 2024).

In terms of the cognitive characteristics of training policies, the research mainly focuses on the influencing factors such as the understanding degree of training policies, the cognition of improving farmers' income, and the frequency of technical problems (Li et al., 2023; Huber et al., 2024; Xie et al.,2021). Farmers' understanding of vocational skills training policies was positively correlated with whether farmers had participated in vocational training (Qian, 2019). There was a positive correlation between farmers' understanding of preferential policies and laws and regulations related to training,

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farmers' cognition of how the training has helped to improve their own or other villagers' income, and farmers' attitude and awareness of actively learning agricultural knowledge and obtaining market information "and their willingness to participate in training (Chen, 2019; Cruz et al., 2022; Devkota et al., 2023; Khalili et al., 2024). Farmers' knowledge reserve, skill level, farmers' attitude towards their own abilities, and policies and institutions related to training had a significant impact on farmers' willingness to participate in training (Ethiopia & Wuletaw, 2014; Mardiharini et al., 2023; Aregaw et al., 2023; Olaleye et al., 2024). And farmers' knowledge level, cognition and attitude towards organic vegetables had a significant impact on farmers' willingness to participate in organic vegetable cultivation (Shimul et al., 2014).

Despite these contributions, there is still a lack of consensus on the relative importance of different factors and the specific mechanisms affecting farmers' willingness to participate in training. In addition, there are three innovative points in this paper: First, most studies use a single quantitative research method, and this study uses a combination of qualitative and quantitative research. Second, most of the existing research objects are limited to one type, production and management farmers or technical and skilled farmers. The object of this study includes production and management farmers, technical and skilled farmers and social service farmers. All these three types of high-quality farmers are included in the scope of this study. Third, there are two ways to set the independent variable questionnaire items in this study. The basic feature dimension adopts the form of multiple-choice questions, and the supply dimension of training subjects and the dimension of farmers' perception of policies adopts the 10-level scale method, which can clearly show the willingness of farmers participating in the training to these two dimensions.

In 1943, Abraham Harold Maslow proposed the hierarchy of needs theory in his book The Theory of Human Motivation. The three basic assumptions of the theory are: People's needs affect their behavior; Human needs are of importance and hierarchy; When the needs of a certain level are minimally satisfied, the higher level of needs will be pursued. Maslow's theory divides the needs into five categories: physiological, security, social, respect and self-actualization. The five levels are in a progressive relationship, from low to high (Tang, 2016). According to Maslow's hierarchy of needs theory, farmers at different stages of development have different demands on training content. Farmers who do not meet their physiological needs urgently need to increase their income to meet the daily expenses of food, clothing, housing and transportation. For those farmers whose security needs are not met, it is urgent to improve their technical level and management ability to ensure the stability of their work and avoid the loss of property. Farmers who meet the safety needs but not the social needs are more eager to know more peers and make friends to meet the emotional needs; Farmers who meet social needs but fail to meet their respect needs are more likely to be recognized by the society for themselves and their professional identity. The self-actualization farmers who do not meet the demand for respect hope to realize their ideals and aspirations. At this time, farmers are often no longer training participants, but change their identities and become training teachers or organizers (Slimi et al.,2021). At the same time, it should also be noted that although the training needs of farmers are limited by the development stage, the subjective initiative of people and the guiding role of education should not be ignored (Yu, 2024).

3. Methods

3.1. Research Ideas

First, based on the literature research and Maslow's hierarchical needs theory, this paper preliminarily formulates the interview outline and online questionnaire.

Secondly, Jiangxi Biotech Vocational College and Jiangxi Academy of Agricultural Sciences two high-quality farmer training units as the investigation objects. A combination of individual interviews and online questionnaires were taken.

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Thirdly, the qualitative research method was used to classify the contents of the interview recording into text, and analyze the influencing factors of the training willingness of high-quality farmers. Through the online questionnaire survey of farmers participating in the training of two training units, SPSS 26.0 software was used for linear regression analysis, and quantitative research methods were used to explore the factors affecting the training willingness of high-quality farmers. The training intention index of high-quality farmers is classified from three dimensions, which are the three first-level indicators of high-quality farmers' training, namely, the basic characteristics dimension of farmers, the supply dimension of training subjects and the degree of farmers' perception of policies (Yu et al., 2023). Each dimension contains different factor indicators.

Finally, according to the qualitative and quantitative analysis results of the previous stage, the influence of each factor on the training willingness of high-quality farmers from the three aspects of personal characteristics dimension, the supply dimension of training subjects and the dimension of farmers' perception of policies is discussed respectively. Finally, the research conclusion of this paper is reached, and targeted countermeasures and suggestions are put forward to improve the training willingness of high-quality farmers. The following is the technical roadmap of this study.

3.2. Research Methods

To gain an in-depth understanding of the factors affecting the willingness of high-quality farmers to participate in training, the researchers conducted a questionnaire survey among high-quality farmers in 11 regions of Jiangxi province, including Nanchang, Jiujiang, Ganzhou, Ji'an, Yichun, Pingxiang, Jingdezhen, Yingtan and Ganzhou, from October 2023 to November 2023, as shown in Figure 1.

Figure 1.
Map of the sources of farmers who participated in the training of high-quality farmers.

3.2.1. Field interviews, i.e. qualitative research

The survey subjects were students of two provincial training courses of Jiangxi Biotechnology Vocational College and Jiangxi Academy of Agricultural Sciences, and on-site face-to-face interviews were taken. The total number of training courses of Jiangxi Academy of Agricultural Sciences is 300 participants, each class is 100 farmers, Two of the classes took part in an online survey; Jiangxi

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Biotechnology Vocational College has a total of 688 participants, 100 farmers per class, four of the classes took part in an online survey (Lakens, 2022). By following the class, the author observed the students' learning situation on the spot, combined with the class teacher's opinion, according to the observed learning performance, each class selected excellent, average, poor, three levels, each level of one person, face-to-face interview, recorded the answer to the question by recording.

3.2.2. Online Questionnaire Survey

The objective of this study is to analyze the influencing factors of the training intention of high-quality farmers, and to determine the basic information and index factors of the questionnaire based on the explanation of this issue in existing literatures. Therefore, explanatory variables are the influencing factors of the training intention of high-quality farmers, which are divided into three dimensions. Including "gender", "age", "education level", "from the agricultural position", "last year engaged in agricultural income" 5 variables. The second is the training subject supply dimension, including "training content", "training teacher", "training service" 3 variables. The third is the perception dimension of training policy, a variable of "the degree of farmers' perception of policy".

Questionnaire preparation, questionnaire two-dimensional code preparation, online distribution of questionnaires. Through wechat group, the head teacher distributed wechat QR code questionnaire to the two classes interviewed by Jiangxi Academy of Agricultural Sciences and the four classes interviewed by Jiangxi Biotechnology Vocational College, and recovered 514 online answer results. Among the six classes surveyed, except for some students who signed up for the training but did not actually arrive, all the rest participated in the answer, with an actual recovery rate of 100%. Valid answer sheet 100%.

3.2.3. Analysis of Statistical Results

According to the results of multiple linear regression model estimation in Figure 2, the data in this study are consistent with the linear regression normal distribution, and the model has a good fit, which is suitable for the analysis of factors affecting the training intention of high-quality farmers.

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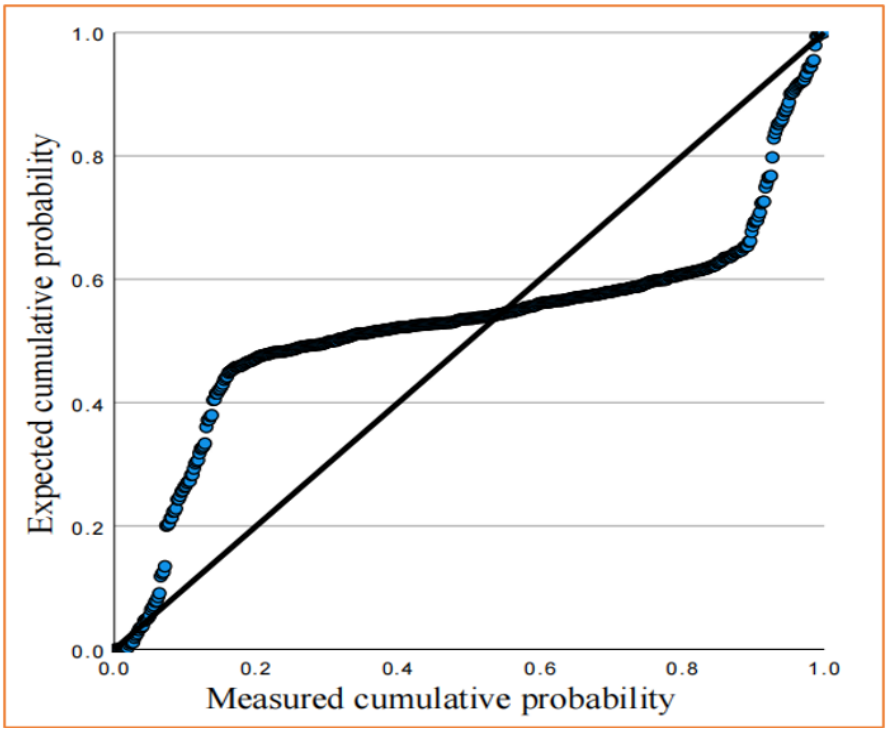

Figure 2.
Normal p-p plot for regression of standardized residuals.

According to the model summary results in Table 1, the goodness of fit is reflected by the index of "adjusted R square" (Zhang, 2023), where the index value of "adjusted R square" is 0.420, indicating that the goodness of fit of the model is good and has a good fitting effect.

In this study, it is shown that the independent variables of the three dimensions of the characteristics of farmers, the supply of training subjects and training policies have an impact on the training intention of high-quality farmers. The Durbin-Watson index value is 2.062, which is very close to 2, and the effect is good (Bengana et al., 2023). According to the F-test results of the model equation in Table 2, the F-test result of this model is 29.524, and the general index value less than 30 is considered very good (Visani et al., 2023).

At the same time, the significance level is 0.000, which reaches a very significant level. It shows that the regression equation of this model is scientific. According to the calculation results of regression coefficients of the model in Table 3, it can be seen that the collinearity result VIF, the VIF value of each variable is less than 3, which is in a reasonable range. The T-values of the five factors "gender", "age", "farming experience", "income from farming last year" and "training teachers" are negative, indicating that these five independent variables have a negative impact on the dependent variable "training intention".

The T-values of "education level", "training content", "training service" and "farmers' perception of policy" of these 4 factors are positive, indicating that these 4 independent variables have a positive impact on the dependent variable "training intention".

"Training content" $p=0.000<0.001$, "training service" $p=0.000<0.001$, "farmers' perception of policy" $p=0.000<0.001$, the p values of these three factors are all less than 0.001. It shows that "training content", "training service" and "farmers' perception degree of policies" are very important factors affecting the training willingness of high-quality farmers, and have a "very significant" positive impact on whether farmer trainees are willing to participate in high-quality farmer training.

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Table 1.
Model summary.

R	R^2	R^2after adjustment	Errors in standard estimates	Changing statistics					Durbin-Watson
				R square change	Change in F	DF	Dof 2	Significance F change	
0.659	0.434	0.420	1.095	0.434	29.524	13	500	0.000	2.062

Table 2.
Results of F-test for model equations.

Model		Sum of Squares	df	Mean square	F	Salience
	Regression	460.490	13	35.422	29.524	000.
	Residual	599.885	500	1.200		
	Total	1060.375	513			

Note: F represents whether the linear relationship between the explained variable and all the explained variables is significant on the whole, that is, the integrity test of the model.

4. Results

Training intention of high-quality farmers and data frequency of influencing factors, see Table 4. In terms of gender, men accounted for nearly 75% and women accounted for nearly 25%, indicating that most men participated in farmer training and men paid more attention to vocational education and training (Li & Pilz, 2023).

Table 3.
Results of model regression coefficient calculation.

Model factors	Unstandardized coefficients		Standardization coefficient	t	P	Collinearity statistics	
	B	Standard error	Beta			Tolerances	VIF
Gender	-147	119	-44	1.239	216	880	1.137
Age group	-68	63	-49	1.085	278	557	1.795
Educational attainment	34	41	31	833	405	806	1.241
Primary working experience before farming	-3	19	-5	-147	883	916	1.092
Income from farming last year	-1	43	-1	-24	981	683	1.463
Training content	604	65	454	9.263	0	470	2.126
Training teachers	-90	83	-54	1.089	277	468	2.139

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	Training services	297	80	164	3.714	0	581	1.723
	Degree of farmer perception of training policy	154	28	215	5.535	0	752	1.329

Note: VIF represents collinearity of the linear regression equation, VIF <10, it is generally believed that there is no collinearity. P<0.001 considered the effect to be extremely significant.

Table 4.
Training intention of high-quality farmers and data frequency of influencing factors.

Name	Options	Frequency	Percentage
Gender	male	384	74.7
	female	130	25.3
Age group	Age 29 and younger	71	13.8
	Ages 30-39	120	23.3
	Ages 40-49	191	37.2
	Ages 50-59	120	23.3
	Age 60 and older	12	2.3
Education level	High school	85	16.5
	Technical secondary school	110	21.4
	Junior College	43	8.4
	Junior college	222	43.2
	Bachelor's degree or above	54	10.5
Agricultural post	Ordinary farmers	63	12.3
	Agricultural workers, agricultural employees and other persons with specialized skills in agriculture	22	4.3
	Agricultural machine operators and other agricultural socialization service personnel	35	6.8
	Village cadres (Including village officials)	206	40.1
	Working outside the home	19	3.7
	Middle and senior management in the business	28	5.4
	Military personnel, teachers, doctors, engineers, and lawyers, etc	14	2.7
	Individual investor	58	11.3
	College students	14	2.7
	Other	55	10.7
Income from agriculture in the previous year	10,000 yuan or less	210	40.9
	110,000-200,000	210	40.9
	210,000-300,000	37	7.2
	310,000-400,000	11	2.1
	410,000-500,000	11	2.1
	500,000 and above	35	6.8
Training content	1Very non-conforming	1	0.2
	2	1	0.2

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Name	Options	Frequency	Percentage
	4	2	0.4
	5	5	1
	6	4	0.8
	7	16	3.1
	8	23	4.5
	9	31	6
	10 A perfect fit	431	83.9
	1Very dissatisfied	1	0.2
	2	1	0.2
	3	1	0.2
	4	1	0.2
	5	3	0.6
	6	5	01.0
	7	7	1.4
	8	17	3.3
	9	25	4.9
Training teachers	10 Very satisfied	453	88.1
	1Very dissatisfied	1	0.2
	2	1	0.1
	3	1	0.1
	4	2	0.2
	5	2	0.4
	6	1	1
	7	5	1
	8	21	4.1
	9	30	5.8
Training services	10 Very satisfied	450	87.5
	1Very dissatisfied	155	2.9
	2	1	0.2
	3	2	0.4
	4	3	0.6
	5	12	2.3
	6	10	1.9
	7	10	1.9
	8	25	4.9
	9	31	6
Training policy	10 Very satisfied	405	78.8

From the perspective of age, 13.8% are under 29 years old, nearly 60% are 30-49 years old, and nearly 25% are over 50 years old, indicating that most of the farmers who participate in high-quality farmer education and training are middle-aged farmers. Younger and older farmers are relatively few. In terms of education level, nearly 83.5% of them are senior high school or above. What is more noteworthy is that 42.9% of them have a junior college education and 10.5% have a bachelor's degree or above. It shows that compared with traditional farmers, some highly educated and high-quality talents begin to pay attention to agricultural development and put into actual production.

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From the current Agricultural post, the Ordinary farmer is 12.26%, the village cadre is 40.08%, and the college student is 2.72%, indicating that the village cadre is the most trained in the training activities of high-quality farmers in Jiangxi Province, followed by ordinary farmers and agricultural professional and technical personnel, and finally, the number of college students participating in the training also has a part. But in terms of the current overall data proportion is still relatively small.

Training content, training teacher, training service and training policy, the options are set in the form of 1-10 scale, 1 represents the table "very dissatisfied", 10 represents "very satisfied" from the scale results, the training content "very satisfied" reached 83.9%, the training teacher "very satisfied" reached 88.7%. Training service "very satisfied" reached 87.5%, and farmers' perception of policy "very satisfied" reached 78.8%. The satisfaction degree of training teachers is the highest, followed by training service, then training content, and finally training policy. Farmers' perception degree of policy when they participate in training is the lowest compared with the supply of training subjects. The satisfaction of these four factors on training is still relatively high.

5. Discussion

5.1. Basic Feature Dimensions

From the perspective of gender of farmers participating in the training, according to (Table 4), the data on training intention of male and female farmers participating in the training show that t=-1.239, and the significance p=0.216>0.05, indicating that gender has no significant impact on the training intention of high-quality farmers, indicating that gender factor is not the main factor affecting whether farmers are willing to participate in training.

From the perspective of age, according to (Table 4), t=-1.085, it indicates that age has a significant negative effect on farmers' willingness to participate in high-quality farmers' training. p=0.278>0.05, indicating that the age factor is not the main influencing factor of the training intention of high-quality farmers. This is different from the conclusions of other relevant scholars (Bray, 1997).

From the perspective of education level, according to (Table 4), t=0.833, it indicates that education level has a positive impact on the training of high-quality farmers. Compared with traditional farmers, the education level of farmers in the new era is getting higher and higher. The research object of this study is the training of high-quality farmers in Jiangxi Province, which belongs to high-level farmer training. Each village needs to select representative farmers to participate in the training, so 50% of the farmers selected to participate in the training have received college education or above, the higher the level of education of farmers, the more willing to participate in high-quality farmer training. But p=0.405. 0.05, indicating that the impact of education level on the training intention of high-quality farmers is significant. Therefore, it is considered that education level is not the main factor affecting the training intention of high-quality farmers.

From the perspective of farmers' training positions, according to (Table 4), t=-0.147, indicating that farmers' position has a negative impact on their willingness to participate in high-quality farmer training; p=0.883, indicating that farmers' position has no significant impact on their willingness to participate in training.This is different from the findings of other relevant scholars (Hunter-Johnson et al., 2021 ; Flaherty, 2022).

From the perspective of family agricultural income, According to (Table 4), t=-0.024,it indicates that family agricultural income has a negative impact on whether high-quality farmers are willing to participate in training; p=0.981 indicates that income has no significant impact on farmers' training willingness. This is different from the results of other relevant scholars who believe that income is an important factor for farmers' training willingness (Charatsari et al., 2022).

5.2. The Supply Dimension of Training Subjects

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From the perspective of training content, According to (Table 4), t=9.263, indicating that training content has a very large positive impact on training intention, p=0.000<0.001, indicating that training content has a significant effect on training intention. On the one hand, through face-to-face interviews, we learned that farmers are very concerned about whether the training content meets their needs. For example, farmer trainee A1: "I am an extension officer of agricultural machinery company, I came to participate in this training only when I saw that this training has a course on new agricultural machinery, otherwise we are very busy and have no time to attend the training, hoping to learn the use of new agricultural machinery maintenance technology through this training, and promote our new agricultural machinery to the villagers better."The training cycle of high-quality farmers in Jiangxi Province is 7 days, which is a very long time for farmers and will delay a lot of work (Nadkarni, 2022; Zhang et al., 2022). If the training content is not what farmers need, the students are very reluctant to participate in the training and their classroom performance is not active. On the other hand, according to the theory of adult pedagogy, peasant trainees are all adult learners who attach great importance to the measurement of learning value. When the training content meets the needs, they think the training is valuable, and they are very willing to participate in the training and show positive performance. On the contrary, when the training content does not meet the needs, it is considered that the training is of no value and is very reluctant to participate in the training, and some farmers will not listen carefully even if they are arranged to participate in the training. These will seriously reduce the effectiveness of training.

From the perspective of training teachers, According to (Table 4), t=1.089, p=0.277, It shows that training teachers has a positive effect on training intention, but it is not significant. Because the training method and the knowledge and ability level of teachers both affect the quality of training (Tamsah et al., 2021). For example: farmer student A3 said, "We have done a pilot this year, I am the pilot, there are two peach classes in our city, a grape class, I was specially responsible for the technical guidance of this class of 8 relatively young farmers, so that I can help others, but also in practice to constantly explore and improve their technical ability." However, if the content of teacher training is not what farmers need, then no matter how excellent teachers give lessons to peasant trainees, the trainees are not willing to spend time on lectures when they think it is of no value. Therefore, the training willingness of teachers to high-quality farmers is not significant.

From the perspective of training service, According to (Table 4), t=3.714, It shows that the training service has a positive effect on the training intention of high-quality farmers. Because if the training service provided by the training institution is very satisfactory to the trainees, usually the trainees are very willing to participate in the training (Ergashevich, 2024; Ya & Noordin, 2024). For example: Farmer student A5 said, "I am from Ji 'an Jinggangshan, came to Nanchang, the provincial capital to participate in this training, it is not easy to take 7 days to come, I hope to come here can also have accommodation, study, catering, transportation and other standards of higher services, to provide a better learning and exchange environment. To make friends while studying in a more relaxed environment." It can be seen that the accommodation is very high-end, the food is very attractive, and the environment of the training place is very high-end. At the time, the trainees think that the training is high standard, can enjoy high standard services, and make friends with high-level peers, of course, they are willing to participate in the training (Itzchakov et al., 2023), it can be seen that the training service has an important impact on the training intention . This just verifies the result of (Table 4), training service p=0.000, training service has a significant impact on training intention.

5.3. Dimensions of Training Policy Perception

From the perspective of farmers' perception of training policies, according to (Table 4), t=5.535, p=0.000<0.001, indicating that farmers' perception of training policy has a significant positive

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impact on farmers' training intention. Because agriculture is an industry with long investment cycle, slow effect, high cost and low return on investment, if farmers feel the support of national policies, they will be more active in agriculture, and farmers are willing to train and improve agricultural skills. In addition, the data show that most of the high-quality farmers in the training courses are from rural village cadres, who are more interested in the interpretation of agricultural policies by relevant agricultural experts, to fully understand and make use of current agricultural policies and better serve the villagers. For example: farmer trainee A2 said: "As a village cadre, my job responsibility is to serve farmers, I want to share some good agricultural policies to farmers, first of all, I need to understand the national agricultural policy thoroughly, in order to correctly guide our farmers to meet the policy requirements, use the policy, enjoy the policy rewards, and bring real benefits to farmers."

6. Conclusions

From the theoretical point of view, it provides a theoretical basis for enhancing the training willingness of high-quality farmers and stimulating the endogenous motivation of farmers to participate in training. From the perspective of practice, it provides policy basis for training institutions to improve the training performance of high-quality farmers and relevant government departments to formulate scientific and effective high-quality farmers training policies. At the same time, this study also has some shortcomings. Only Jiangxi Academy of Agricultural Sciences and Jiangxi Institute of Biological Science and Technology were selected as the survey objects, and the data range has certain limitations. It is hoped that the data samples in future studies can cover all high-quality farmer training units in Jiangxi province and units outside the province, to make the research results more comprehensive, accurate and representative.

7. Policy Suggestions

7.1. Pre-Training Demand Survey, Implementation of Precision Training.

Before the training, the training supplier sets and refines the training content according to the needs of farmers in different industries, levels and types (Crompton et al., 2024), and dynamically updates it to enhance the dynamic adaptation between education and training and the needs of high-quality farmers (Gong et al., 2023; Zhang,2023), such as extending the scope of new knowledge, Brand marketing, agricultural product e-commerce, business model, agricultural policy, legal knowledge interpretation, etc (Bondarenko et al., 2024). which are strongly demanded by high-quality farmers, will be incorporated into the curriculum system; Expand the field of new technologies, and integrate information technologies such as cloud computing, big data, agriculture-related apps (Javaid et al., 2022; Karunathilake et al., 2023; Al-Ammary & Ghanem, 2024), and artificial intelligence AI into smart agriculture training (Li, 2024).

It will diversify training forms, combining centralized training with decentralized training, combining classroom teaching with field guidance, and combining online training with offline training. Special attention should be paid to the fact that no matter what kind of combination form is adopted, the training of high-quality farmers should be "grounded" and highlight the characteristics of Practicality and practicability (Fan et al., 2024; Zhou, 2024).

The "teaching and learning" of "field" agricultural experts and farmers face to face is the most respected (Yu et al., 2023). On the one hand, according to the pre-training research, in-depth digging training needs of the field stand out "Tian Xiucai" and "local experts" (Ma, 2022; Han & Zha, 2023). On the other hand, hire a certain number of experts from agricultural colleges and research institutes to strengthen the training teacher base and ensure the implementation of accurate training teachers.

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7.2. Optimize Training Services and Improve Training Satisfaction.

According to the field survey, farmers hope that the training will not affect the busy farming, and short-term training lasting 4 to 7 days is the most popular (Greene, 2022). Therefore, training institutions should arrange courses according to the agricultural production cycle and the key technical links of agriculture, use the slack season to focus on systematic theoretical training for farmers, and go deep into the field during the busy season to give farmers "face to face" and "hand to hand" practical operation guidance (Reis et al., 2023).

According to the survey results, farmers from various regions of Jiangxi Province hope to be given higher standards and services in terms of transportation subsidies, accommodation, catering and so on (Gale, 2013). Most of the farmers to participate in the provincial training are farmers, heads of agricultural enterprises, village cadres, etc. They hope to be guaranteed in terms of life during the training, and at the same time, they can make more excellent peers in the training. Exchange experience with each other. At the same time, provincial training institutions are concentrated in the provincial capital cities (Ya, 2020), farmers hope that training institutions can use their own advantages, lead them to visit the provincial demonstration base, exchange guidance, to provide farmers with experience learning, operation observation, practical operation opportunities. To ensure that from the time, place, environment and other training supply services to improve satisfaction.

7.3. Improve Policies and Systems to Protect the Interests of Farmers Participating in the Training

Build a social security system integrating urban and rural areas. Eliminating the difference between professional farmers and urban workers in basic social welfare and ensuring the same social security is not only a recognition of their professional identity, but also a solution to their worries after work (Sha et al., 2024). It will ultimately update people's awareness and understanding of high-quality farmers, and increase farmers' willingness to participate in training and become professional farmers.

Implement a system of financial subsidies. We will set up a special fund for projects to cultivate high-quality farmers. We will provide focused and targeted support to those who return to their hometowns to start their own businesses. Subsidies will be given to identified high-quality farmers in purchasing means of production and upgrading agricultural equipment, and credit and financial support will be given to them in technology research and development, project research and new product development. We will introduce agricultural insurance policies. In combination with the development of agriculture, new agricultural insurance products are constantly introduced, the procedures for agricultural insurance and claims are simplified, and the occupational risks of high-quality farmers involved in agricultural construction are effectively reduced (Madaki et al., 2023).

We will strengthen policy publicity. Farmers have a narrow social network, few channels to receive information, and limited understanding and awareness of relevant policies (Valujeva et al., 2023). Grass-roots governments should broaden channels and intensify policy publicity, so that farmers can timely and comprehensively understand the various supporting policies adopted by the government to promote high-quality farmer training and rural revitalization, and attract more farmers to participate in the team of high-quality farmers (Ma et al., 2024).

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