

# Exploration and Practice of the Cultivation of Three New-type agricultural talents under the Background of Rural Revitalization Strategy

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## Abstracts

New agricultural talents are the key core force to comprehensively realize the rural revitalization strategy. Under the background of the strategy of rural revitalization, Hunan University of Humanities and Technology (AAT) actively explores the integration of agricultural science and education, constructs "village and town College", faces the rural grass-roots level, strives to create "three base areas", establishes "Village College" and cultivates "three types of new agricultural talents" for Rural Revitalization. At the same time, it provides effective reference for the agricultural talents cultivation mode of the applied local undergraduate universities. The result found that for Hunan University of Humanities and Technology, which offers applied local undergraduate universities with agricultural majors, it is even more necessary to focus on serving the local areas and combine it with the strategy of serving local rural revitalization, in order to make due contributions to the cultivation of "three types of new agricultural talents".

**Keywords:** Rural Revitalization; Rural revitalization strategy; Personnel cultivation; New-type agricultural talents;

## Introduction

In the report of the 19th National Congress of the Communist Party of China, the rural revitalization strategy was put forward, among which the work of "agriculture, rural areas and farmers" (agriculture, rural areas and farmers) is the overall focus of the new era. Xi general secretary of the central rural work conference in 2021 stressed that the party must fully understand the new stage of development to do a good job of "three rural" the importance and urgency, adhere to the solution of "three rural" problem as the party priority, lift force of the whole society to promote rural revitalization, promote the high quality and efficient agriculture, rural livable appropriate industry, farmers rich rich<sup>[1-2]</sup>. In order to fully implement the strategy of rejuvenating the country, promote the agricultural industry comprehensive upgrade, rural progress, farmers all-round development, speed up the agricultural rural modernization, all-round construction of socialist modernization country, on April 29,2021, the 13th session of the standing committee of the National People's Congress 28 meeting by and issued the rural revitalization promotion law of the People's Republic of China. In the work of promoting rural development and rural revitalization, the most core and critical force is the cultivation of new agricultural talents, which are the most powerful force in rural development. Therefore, this paper in Hunan institute of humanities science and technology of agriculture and biotechnology institute, for example, actively explore agricultural integration, through the "three docking", "three", efforts to build "three bases", build "village college", for rural revitalization of training

"three kinds of new agricultural talents", for applied local undergraduate course universities of agricultural talent training mode has positive significance.

A study has found that: 1. Making solving the "three rural" issues a top priority in the work of the entire Party, we need to build a knowledge-based, skilled, and innovative workforce. Therefore, the cultivation of new vocational farmers in the new era is of great significance. 2. The new talent cultivation model of "three pairs, four modules, and seven learning stages", which is guided by professional ability and focuses on the cultivation of "research-oriented problem-solving ability" and combines industry and education, proposes further reform of professional degree graduate education. 3. Taking Hunan University of Humanities and Technology as an example, this paper analyzes the necessity and feasibility of local universities participating in the cultivation of new vocational farmers and promoting the revitalization of rural talents. 4. Starting from the construction of agricultural industry system, ecological environment protection, inheritance of rural traditional culture, and rural governance, this paper explores the practical path of new vocational farmer training from multiple dimensions such as industry innovators, practitioners of ecological civilization, inheritors of traditional culture, and leaders of rural governance, providing intellectual support for promoting agricultural modernization and rural revitalization strategies. 5. The role of professional farmers in rural development should also be fully recognized, so that relevant personnel can strengthen their sense of responsibility, work together to do a good job in rural vocational education, and provide effective assistance for the development of rural revitalization (Peng Zhongwen, 2018: 213-214; Chen Yong, Zhou Invention,&Peng Jianmin, 2017: 37-43; Liu Zefa, Xiang Guohong, Kang Linfeng, Peng Rimin, Li Hongjian, Zhang Weilan,&Nie Qiong, 2019:23).

The research object of this article is the cultivation of full-time undergraduate and graduate students in the field of agriculture at the School of Agriculture and Biotechnology (Agricultural Science Institute) of Hunan University of Humanities and Technology.

## **The necessity of cultivating "three types of new agricultural talents"**

### **(1) The definition of "three types of new agricultural talents"**

The implementation of the rural revitalization strategy requires a large number of agricultural talents. According to the actual situation of rural grassroots and the strategic planning of rural revitalization, the agricultural and forestry talents needed by rural grassroots mainly include: ① new grassroots agricultural technology and farmers, new professional farmers and farmers; ③ new rural grassroots management talents with firm ideals and beliefs, deep feelings, morality and ability with village officials as the main body.

### **(2) Promotion of rural revitalization strategy and relevant policies**

From 2004 to 2022, the CPC Central Committee issued the No.1 central document on the theme of agriculture, rural areas and farmers for 19 consecutive years, repeatedly emphasizing the status of agriculture, rural areas and farmers. Among them, the No.1 document of the CPC Central Committee in 2018 and 2021 respectively put forward the Opinions of the CPC Central Committee and The State Council on Implementing the Rural Revitalization Strategy, and the Opinions of the CPC Central Committee and The State Council on Comprehensively Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization. On April 29, 2021, the 28th Session of the Standing Committee of the 13th National People's Congress adopted and promulgated the Law of the Law of the People's

Republic of China on the Promotion of Rural Revitalization. Thus, China emphasizes the importance of agricultural talents and the strategic position of rural revitalization from the national macro level<sup>[3]</sup>. Based on this background, this paper combines the advantages of College of Agriculture and Biotechnology (Institute of Agricultural Science and Technology) of Hunan Institute of Humanities and Technology, actively explores the integration of agriculture, science and education, constructs "village colleges", and trains "three types of new agricultural talents" for rural revitalization.

### **(3) The necessity of application-oriented local undergraduate universities to serve the local economy**

Hunan is a typical big agricultural province. Among the universities in Hunan, there are few local undergraduate universities to train agricultural talents. As an economically underdeveloped area, Loudi city has been relatively low in the economic ranking of the province over the years. The agriculture of Loudi city is in urgent need of transformation, upgrading and rapid development, which requires a large number of new agricultural talents with high quality and high skills and feelings. Therefore, for Hunan Institute of Humanities and Technology, an applied local undergraduate universities with agricultural majors, it is more necessary to focus on serving the local areas and serving the local rural revitalization strategy, so as to make due contributions to the training of "three types of new agricultural talents"<sup>[4]</sup>.

### **The idea of cultivating "three types of new agricultural talents"**

Combined with the actual development status of rural areas, facing the rural grassroots, through "three docking" and "three support", efforts to build "three bases", actively explore and innovate the new training mode of "three types of new agricultural talents", so as to provide guarantee for rural revitalization talents. That is to closely align the new requirements for agricultural and rural modernization and the integrated development of primary, secondary and tertiary industries, Closely matching the new requirements for the development of modern agriculture, Closely align with the new requirements of modern rural governance, Relying on the university's agriculture-related disciplines, teaching and research platform and human resources, Deepening the construction and reform of "integration of institutes" in Loudi Institute of Agricultural Sciences-Institute of Agriculture and Biotechnology, Together with the competent departments of agriculture and rural work of Hunan Provincial Department, Loudi City and Louxing District, Connecting specialized farmer cooperatives, professional and technical associations, and leading agricultural enterprises, Innovate the system and mechanism of rural grassroots talent training, School-local and school-enterprise cooperation to build "village colleges"; Exploring a new mode of training and training of grassroots talents in rural areas, Effectively improve the working ability of college students to serve the grassroots, Actively develop applicable teaching materials and online teaching resources, Explore and establish new teaching methods such as field classroom and network classroom; Efforts will be made to build training bases for grassroots agricultural technology and special posts, training bases for high-end new professional farmers and new farmers, and training bases for village officials, To cultivate three types of "new agricultural talents" with firm ideals and beliefs, deep feelings for "agriculture, rural areas and farmers", excellent professional skills, and ability to "go down, do well and stay"<sup>[5]</sup>.

### **(1) New grass-roots agricultural technology special post personnel training ideas**

To meet the new requirements for the innovative development of modern agriculture and the integrated development of primary, secondary and tertiary industries, Based on the school orientation, Relying on Loudi Institute of Agricultural Science (College of Agriculture and Biotechnology) and agronomy, Horticulture, Plant Protection, Food Science and Engineering, Facing the rural grassroots level, Explore a new mode of innovative, compound and applied rural grassroots agricultural technology special post personnel training, Effectively improve the working ability of college students to serve the rural grassroots, Continue to cultivate rural grassroots ideals and beliefs, "agriculture, rural areas" deep feelings, moral ability, professional skills, can be able to "go down, do well, stay" love rural, love agriculture of the new grassroots agricultural technology special post personnel, Efforts to build grassroots agricultural technology special post personnel, training base<sup>[6]</sup>.

### **(2) Training ideas of new professional farmers and farmers**

To align ourselves with the new requirements for modern agricultural development, Relying on the School of Agriculture and Biotechnology, School of Continuing Education, Department of Graduate Education and Agriculture, Horticulture, Plant Protection, Food Science and Engineering and other related majors, Together with the competent departments of agriculture and rural work of Hunan Provincial Department, Loudi City and Louxing District, Connecting specialized farmer cooperatives, professional and technical associations, and leading agricultural enterprises, The establishment of a "village and town college", Innovate and build a new system, new mechanism and new model of cultivating new professional farmers, We will implement a project to cultivate new types of professional farmers, Innovative training organization form, Organize the development of practical teaching materials and online teaching resources for new professional farmer training, Cultivate high-end new professional farmers and farmers who love agriculture, understand technology and are good at operation, Efforts will be made to build a training base for high-end new professional farmers and new farmers<sup>[7]</sup>.

### **(3) The training ideas of the management talents of the new grass-roots organizations, mainly with the village officials**

Docking of modern rural governance new requirements, relying on the Hunan institute of science and technology of agricultural and economic management disciplines, joint provincial, municipal two levels of rural grassroots organization departments (provincial party committee, municipal party committee of rural grass-roots organization construction office), to build "village" college, the implementation of the joint directional training, using full-time full-time orientation, correspondence education, remote online education, and other forms, for rural grassroots training ideal faith, "three rural" feelings deep, management quality and management quality of rural grassroots party organization leaders and village management personnel, to build a village official training base<sup>[8]</sup>.

## **The basis of cultivating "three types of new agricultural talents"**

### **(1) Have a complete discipline and professional system**

In 2006, Loudi agricultural science research institute into Hunan institute of humanities science and technology, in 2014 the school of the original life science department into "agriculture and biotechnology institute", and Loudi agricultural science research institute 2 brand a set of institutes overall merger, build the agricultural and biotechnology institute and such a set of teaching and scientific research and technical services for the integration of the consortium (institutes), is the only school to build, condominium, service local "three rural" teaching and scientific research consortium. Set agricultural extension master training, agriculture-related undergraduate education, agricultural science and technology services, agricultural science research "four in one"; The university has opened four full-time agricultural master's degree fields, including agronomy and seed industry, resource utilization and plant protection, rural development, agricultural engineering and information technology; There are 5 full-time undergraduate majors: agriculture (only 3 undergraduate universities in Hunan Province have opened this major), horticulture (fruit trees, vegetables, ornamental horticulture), plant protection, food science and engineering (2 directions of food engineering, food processing), biotechnology; Five agricultural research rooms have been established, including fruit tree vegetables, plant protection, melon, rice cultivation and breeding, and landscaping.

### **(2) Have a strong teaching staff**

College of Agriculture and Biotechnology (Institute of Agricultural Science) of Hunan Institute of Humanities and Technology now has 87 faculty members, including 9 senior titles, 41 doctors, 12 doctoral students and 22 master supervisors. It has 5 research offices, 4 teaching and research sections, and 2 training centers. Now the institute has set up three professional teaching and research service teams: the research team of landscaping and conservation and plant resource utilization; farmland soil ecological restoration and management team; crop cultivation and agricultural products processing service team. In recent years, our new professional farmers cultivation and technical service work has repeatedly won wide attention from the national and provincial news media.

### **(3) Have a solid foundation for school-local school-enterprise cooperation**

The institute has carried out in-depth school-enterprise cooperation with Hunan Xiao Laoye Food Co., LTD., Longping High-tech, Xiangtan Agricultural Science Research Institute, and set up a practical teaching base for undergraduate and graduate students. Since 2015, the Agriculture and Rural Bureau of Louxing District of Loudi City has been guiding our school to try out training new professional farmers, and has successfully been approved as the designated institution for training new professional farmers in Loudi City. In 2017, it was awarded the honorary title of "New Professional Farmers Training Demonstration Base" by the Agriculture and Rural Bureau of Louxing District, Loudi City. The institute and the local government cooperated to build the "Postgraduate agriculture, Rural areas and Farmers Studio". At the same time, combined with the talent plan of the three regions, the science and technology correspondent plan and the targeted poverty alleviation plan, it guided the graduate students to carry out professional practice in the studio for 6 months, and cultivate their practical ability in the practice of serving agriculture, rural areas and farmers<sup>[4]</sup>.

**(4) there are agricultural master students and village officials to train new attempts**

The institute has launched the targeted training program for college students as village officials, and cooperated with the People's Government of Xinhua County to recruit "college students" to study for master of agriculture in our school. Village officials practice in village officials during working hours, and study theories in school on weekends and holidays<sup>[4]</sup>.

**(5) Solid support and guarantee**

**1. Platform guarantee**

The teaching and research platform of the institute is guaranteed, and the university has built a integrated platform —— College of Agriculture and Biotechnology of Hunan Institute of Humanities and Science and Technology (THE Institute of Agricultural Science). In line with grounding Loudi, based on Hunan, Hunan, response to the national rural revitalization and "Belt and Road" strategy, timely according to the demand of modern agriculture development for agricultural talents, with professional ability training as the main line, adhere to the theory and practice, build school cooperation, with the combination of talent training mode, mainly cultivate agricultural biotechnology, horticultural crop production, field crop cultivation, food science and engineering, green plant protection technology in the corresponding professional technology, understand management, good management of applied talents. The college focuses on the training of full-time agriculture-related undergraduate students, supplemented by full-time agricultural master's training. At the same time, it carries out continuing education, short-term training, scientific research and scientific and technological services. Through years of efforts, we have also set up a practical teaching base platform for the joint training of undergraduate students and graduate students. We also have 12 provincial teaching and research platforms, such as "Collaborative Innovation Center for Farmland Weed Control Technology and Application" (Hunan Collaborative Innovation Center), 1 plant tissue culture center, and 1 research center for wine industry development.

**2. Personnel security**

The training of "three types of new agricultural talents" is led by the vice president in charge of teaching, organizing the doctoral teaching and research team implemented by the project, the teaching and research and industrial service team formed by the Agricultural Student Institute and Agricultural Science Institute, and has relatively mature experience in the training of new professional farmers. The team has published 11 relevant monographs, teaching materials and educational reform papers (ministry), laying a good personnel guarantee foundation for the training of "three types of new agricultural talents".

**3. Funding guarantee**

The school site has provided some support for the implementation of the project. Loudi Municipal Bureau of Agriculture and Rural Affairs has always attached great importance to the cultivation of new professional farmers. Since 2015, the new vocational agriculture training work has been put in the School of Agriculture and Biotechnology (Institute of Agricultural Science) of our school for trial, and was awarded the "Advanced Demonstration Base of New Professional Farmers Training" by the Municipal Bureau of Agriculture and Rural Affairs in 2017. And to the College of Agriculture and Biotechnology (Institute of Agricultural Science) to provide cultivation funds of more than 2 million yuan. Our school actively promotes the transformation and development of applied talents, and plant protection and agronomy are the applied characteristic disciplines approved by Hunan Province and the university level. The

major of agriculture is the double first-class construction major of Hunan Province and the pilot major of the 13th Five-Year major, and the training funds are guaranteed.

### **Measures to cultivate "three types of new agricultural talents"**

Relying on Hunan humanities institute of science and technology institute of agriculture and biological technology (agricultural) teaching resources and platform, combined with the actual situation of rural grassroots agricultural talent training, joint of Hunan province hall, Loudi and LouXing area of the competent department of agricultural rural work, as well as the farmers' professional cooperatives, professional technology association, agricultural leading enterprises, after years of practice and exploration, by building and perfecting the "village college" agricultural talent training system, put forward a set of relatively perfect for rural grassroots training "three types of new agricultural talents" practice system (figure 1).

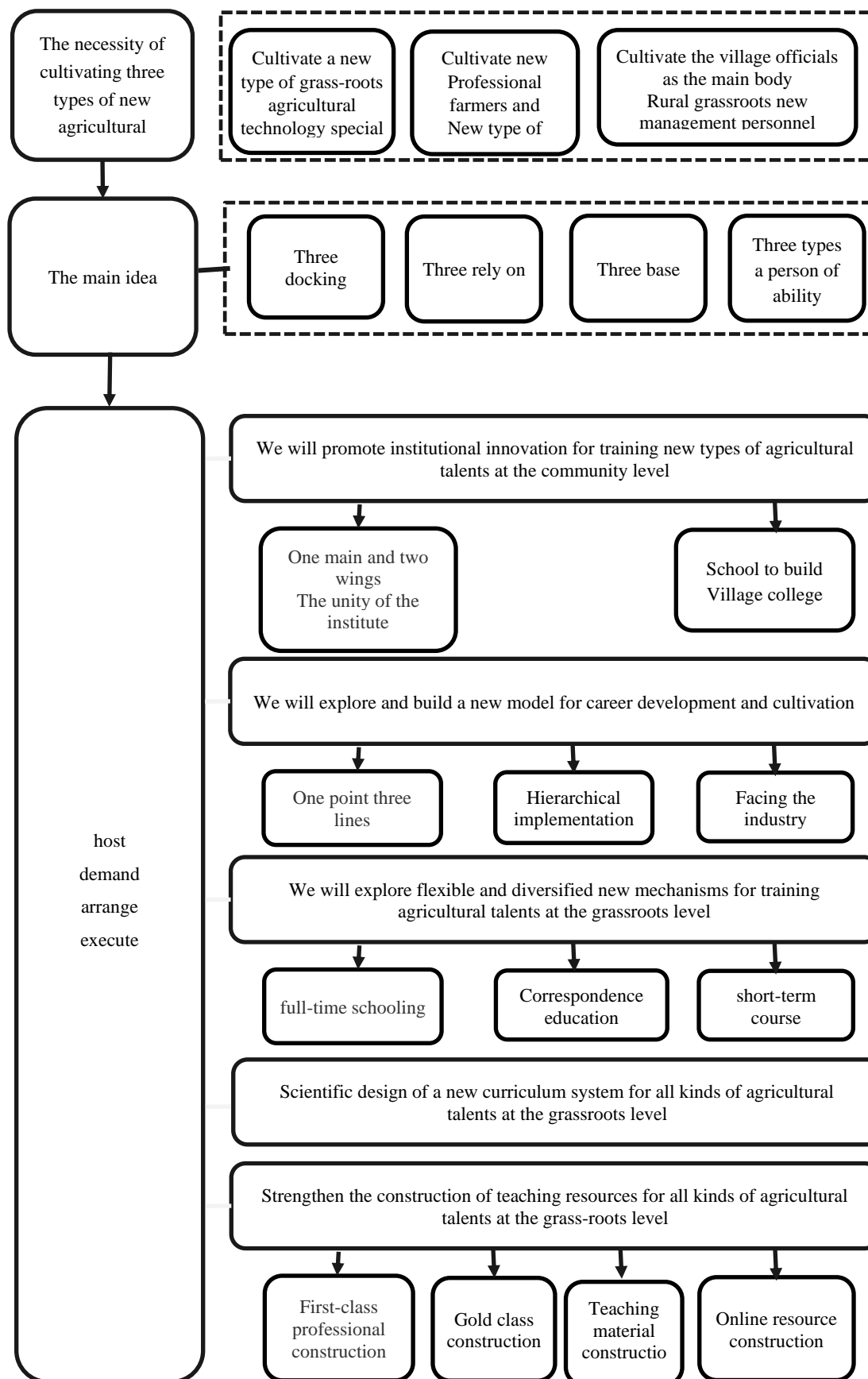


Figure 1 Schematic diagram of the practice of "Village College" in cultivating three types of new agricultural talents for the grassroots



**(1) Vigorously promote the institutional innovation for the training of three new types of agricultural talents at the grass-roots level**

First, the construction of "one main and two wings" grass-roots new agricultural technology extension personnel training new system. Strengthen the construction and reform of the Institute of agricultural talents (i. e., "one master"), and form a new agricultural talent training base for agricultural technology personnel<sup>[9]</sup>.

Second, the school to jointly build "village colleges". In Loudi NongKeSuo-agriculture and biotechnology college as the main body, relying on agricultural disciplines, joint of Hunan province, Loudi and LouXing area of agriculture and rural functional departments and the farmers' professional cooperatives, professional technology association, agricultural leading enterprises such as the main body, to form a "village college", become a high-end new professional farmers and new farmers cultivation base. Relying on economic management and agriculture-related disciplines, together with provincial and municipal rural grass-roots organizations and management institutions, it will train village-level management talents for modern rural governance, and build it into a grass-roots management talent training base serving the modernization of rural governance<sup>[10]</sup>.

**(2) Explore the construction of a new model of career development and cultivation of "three-point and one-line, multi-level implementation and industry-oriented"**

Taking serving rural revitalization as the starting point and goal, and improving the innovation and entrepreneurship awareness of planting skills and management level of three types of rural agricultural talents at the grassroots level, the education and training of agricultural talents are carried out by industries, levels, types and modules<sup>[11]</sup>.

Three points and one line: to serve the development of modern rural agriculture as the main line, and to improve the innovation and entrepreneurship awareness, professional and management level of the training objects as the foothold.

Stratified implementation: by type, by level, scientific formulation of training plans, scientific selection of training objects, and training for township grass-roots level, young farmers and senior technical management personnel of cooperatives.

Industry-oriented: green and health oriented, improving production and increasing agricultural income efficiently, aiming at the development of local agricultural industry and the integrated development of primary, secondary and tertiary industries, training various types of utility model grassroots agricultural technical personnel.

**(3) Actively explore flexible and diversified new mechanisms for training agricultural talents at the grass-roots level**

From the perspective of education form, the training of new basic agricultural technology is full-time undergraduate education, the training of modern young farmers in agriculture, and the training of full-time undergraduate and correspondence undergraduate college education<sup>[12]</sup>.

From the source of students and training objects, the new agricultural technology extension talents of full-time undergraduate level partly come from the ordinary college entrance examination candidates, some from the secondary vocational candidates; the training of village officials should not only train and improve the current village officials, but also select and train reserve cadres from the outstanding youth.

#### **(4) Scientific design of a new curriculum system for all kinds of agricultural talents at the grass-roots level**

Closely around the training "good moral quality, agriculture, rural areas and farmers feelings deep, solid theoretical foundation, professional skills, double gen ability is stronger, morality, intelligence and physique comprehensive development of grass-roots agricultural technology post personnel" target, scientific determine the professional personnel training standard, reasonable set up curriculum module, optimize the curriculum structure, improve the curriculum system, highlight the professional ability and professional skills training<sup>[13]</sup>.

New professional farmers training to adhere to the "for rural agriculture and farmers technology demand, pay attention to practice" scientific and reasonable design of professional farmers training module, to "seminar + training base + rural (industrial base)" a variety of forms in professional farmers training content, from agricultural theory to agricultural skills practice, from agricultural production practice to agricultural industry project training, training content and grassroots agricultural industry talents, technical demand low problem<sup>[14]</sup>.

#### **(5) Strengthen the construction of teaching resources for all kinds of agricultural talents at the grass-roots level**

First, we should strengthen the construction of first-class majors in the training of agricultural technology extension talents, transform and upgrade the traditional agricultural majors with modern biotechnology and information technology, update the professional knowledge system and ability requirements, and explore the implementation path for the transformation and upgrading of traditional agriculture-related majors<sup>[15]</sup>.

Second, we should strengthen the construction of "golden course", optimize the course content, reform the teaching methods, further promote the deep integration of information technology and agriculture-related professional education and teaching, and realize the combination of field classroom and network classroom.

Third, according to cultivate different types of talents, carry out applicable teaching materials and build various forms of online teaching resources.

Research has found that for application-oriented local undergraduate universities like Hunan University of Humanities and Technology with agronomy majors, it is even more necessary to focus on serving the local area and combine it with the strategy of serving local rural revitalization, in order to make the necessary contributions to the cultivation of "three types of new agricultural talents".

Research conclusions: Relying on the teaching resources and platform of the College of Agriculture and Biotechnology (Agricultural Science Institute) of Hunan University of Humanities and Technology, combined with the actual situation of rural grassroots agricultural talent training, the competent departments of agriculture and rural work in Loudi City and Louxing District, as well as relevant farmers' professional cooperatives, professional technology associations, agricultural leading enterprises and other subjects, after years of practice and exploration, By constructing and improving the "village and town colleges" agricultural talent training system, a relatively comprehensive practical system for cultivating "three types of new agricultural talents" at the grassroots level in rural areas is proposed.

## Discussion

Based on the actual demand of rural agricultural talents, this paper deeply studies the innovation mechanism of cultivating "three types of new agricultural talents" in application-oriented local undergraduate universities, and the integration of institutes is the innovation main body of the implementation of cultivating "three types of new agricultural talents". Hunan Institute of Humanities and Science and Technology has realized the integration of universities and agricultural science and technology institutes, agricultural science and education, and established the training goal of "village colleges, with Loudi local Bureau of Agriculture and Rural Affairs and professional farmers, and accurately carried out the training goal of" three types of new agricultural talents " under the background of rural revitalization strategy.

At the same time, this paper puts forward the new system of new agricultural technology extension talent training of "one main and two wings", puts forward the new system of high-end new professional farmers and new farmers training of "farmer development college", and puts forward the new system of village-level management talent training of "village official college". We will explore the construction of a new model of career development and cultivation of "three points, layered implementation, and industry-oriented". To explore new training mechanisms with flexible training forms, including full-time academic education, adult education by correspondence, and short-term training.

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