

Research on the construction path of new agricultural science in Xinjiang based on the high-quality development of higher education

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Abstract. In the context of high-quality development of education, vigorously promoting the construction of new agricultural science is the need to serve the national strategy and rural revitalization, and is an inevitable choice for the development of agriculture-related colleges and universities. Exploring a new path of agricultural science construction that is in line with both national policies and local socio-economic development, and cultivating high-quality agricultural talents is a realistic problem that needs to be solved at present. This paper adopts inductive method through interviews with experts from agriculture-related colleges and universities, research institutes, industry enterprises and government authorities, and expert discussion sessions, and proposes that the construction of new agricultural science in Xinjiang needs to adopt such paths as innovative talent cultivation system, innovative talent practice platform, innovative curriculum system, innovative teacher team construction, innovative research platform for rural revitalization, and support for the construction of Xinjiang New Agricultural Science Education Union to achieve high-quality talent cultivation and enhance the ability to serve rural revitalization. This study tries to propose a new construction path for the construction of Xinjiang agricultural science, explore a new track for agriculture-related colleges and universities to serve the needs of rural strategy and shape a new development momentum.

1 Preface

In the report of the 19th Party Congress, it is pointed out that "building a strong education country is a basic project for the great rejuvenation of the Chinese nation, developing quality education" and "implementing the strategy of revitalizing the countryside, cultivating a workforce of three farmers who understand agriculture, love the countryside and love farmers".[1] It is further proposed in the report of the 20th Party Congress that "we will thoroughly implement the strategy of strengthening the country with talents, accelerate the construction of a high-quality education system, and develop quality education" and "comprehensively promote the revitalization of the countryside, and solidly promote the

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revitalization of rural industries, talents, culture, ecology and organizations" to speed up Building a strong agricultural country requires solid promotion of talent revitalization, and education and talent are strategic support for the comprehensive construction of a modern socialist country.[2] The 2018 national ministry document proposes to adhere to the collaboration between industry, academia and research, deepen the combination of agriculture, science and education, and cultivate first-class agricultural and forestry talents who understand agriculture, love the countryside and farmers. [3]

To comprehensively promote rural revitalization, the key is in science and technology and in talents.[4] In order to thoroughly implement the spirit of General Secretary Xi Jinping's reply letter to the secretaries and principals of national agriculture-related universities and expert representatives, further strengthen higher agricultural and forestry education in Xinjiang, cultivate new talents who know and love agriculture, and fully serve the construction of rural revitalization, ecological civilization and the core area of Silk Road Economic Belt, the construction of new agricultural science should be accelerated to promote rural revitalization. High-quality development of education and rural revitalization put forward new requirements for the development of agricultural science, which needs to open up new tracks and shape new dynamics of development, and building new agricultural science is the choice of high-quality development. [5] However, the construction of new agricultural science in Xinjiang is still in the exploration stage, and no normative, systematic and systemic paths have been formed for reference. This study will systematically explore the issue of the path of new agricultural science construction from six aspects: innovative talent cultivation system, innovative talent practice platform, innovative curriculum system, innovative faculty construction, innovative research platform for rural revitalization, and supporting the construction of Xinjiang New Agricultural Science Education Union.

2 Xinjiang new agricultural science construction connotation

In the process of agricultural and rural modernization, higher agricultural and forestry education has always played a fundamental, pioneering and leading role. In the context of rural revitalization, higher agricultural education has a more honorable mission in science and technology innovation and talent cultivation. Xinjiang agriculture has undergone profound changes in industrial structure, production mode and organization mode, and new industries have been produced continuously. New agriculture, new countryside, new farmers and new ecology put forward higher requirements for the cultivation of agricultural talents. The core task of Xinjiang's new agricultural construction is to reshape the agricultural talent training system with new concepts, new models, new specialties, new courses and new standards, actively adapt to the new needs of rural revitalization and improve the quality of agricultural and forestry talent training.

3 Binding rules and rational goals for the construction of new agricultural science

3.1 Binding rules

Adhere to the fundamental task of establishing moral education. Put ideological and political education through all aspects of the agricultural and forestry personnel training system, fully exploit the ideological and political elements contained in various types of courses, better play the role of agriculture-related courses to cultivate moral, intellectual, physical and aesthetic development of socialist builders and successors. Insist on serving the needs of the country as the guide. Adapt to the development needs of new technologies, new industries

and new industries in modern agriculture, accelerate the integration of agriculture science and education, improve the quality and level of agriculture-related disciplines and majors, and help revitalize the countryside. [6] Insist on reform and innovation as the driving force for development, and promote the comprehensive reform of agricultural and forestry higher education in depth.

3.2 Rational goals

The university will comprehensively implement the fundamental task of educating people with moral character, take strengthening agriculture and promoting agriculture as its mission, and establish a new model of building new agricultural science with Chinese characteristics and advantages in Xinjiang, with the main body of agriculture-related universities in Xinjiang, the government at all levels coordinating and guiding, and enterprises and society widely participating. The new agricultural science and education collaborative education mechanism will be improved, a consensus will be formed on the concept of new agricultural science construction, the reform of higher agricultural and forestry education will be promoted, the construction of first-class agricultural and forestry majors and courses will be effective, and a group of innovative, compound, applied and technically skilled agricultural and forestry talents with "three rural areas", innovative spirit, practical ability and international vision will be cultivated. This will provide stronger scientific support and talent guarantee for the construction of rural revitalization in Xinjiang. [7]

4 Xinjiang new agricultural science construction realization path

4.1 Innovative talent training system

To build a system for cultivating outstanding agricultural and forestry talents in Xinjiang, agriculture-related undergraduate colleges and universities strengthen education and teaching reforms around the needs of national and autonomous regions' economic and social development, and accelerate the cultivation of top innovative, complex and application-oriented agricultural and forestry talents. Higher vocational colleges and universities strengthen the construction of agriculture-related majors, enhance the level of schooling, improve the quality of talent training and the overall level of schooling, and cultivate application-oriented and technically skilled agricultural and forestry talents. [8] The agriculture-related colleges and universities set up additional agriculture-related undergraduate majors to further enhance the ability to serve economic and social development. Strengthen the construction of collaborative training system for agricultural talents, create a system of cooperation among industries, universities and research institutes in school running, education, employment and development. Construct a mechanism for sharing agricultural courses, establish a resource sharing center for agricultural courses in Xinjiang, establish a mechanism for sharing course resources and teaching information among universities, and jointly build a first-class agricultural course cooperation and exchange platform. Promote inter-school construction of teaching and research departments and course groups in agriculture-related colleges and universities, form cooperative teaching mode and academic lecture sharing system, and promote inter-school course selection and mutual recognition of credits. Explore "one course" in the cloud between agriculture-related universities and counterpart universities, so that students of agriculture-related majors can enjoy high-quality educational resources of high-level universities.

4.2 Innovative talent practice platform

Strengthen the construction of cultivation education practice bases, so that young students can cultivate family sentiments and "Agriculture Rural Farmers" emotions in cultivation practice, gather powerful momentum to promote the comprehensive revitalization of the countryside, and contribute wisdom and power to the modernization of agriculture and rural development. [9] Rely on agricultural-related colleges and universities and other bodies to build agricultural bases, innovative agricultural science and technology and cultural services model. Agricultural-related colleges and universities, industrial enterprises and local governments jointly build agricultural product research and development bases, agricultural and livestock production bases, and agricultural, forestry and animal breeding bases. The "science and technology service team" and "culture propaganda team" are formed to encourage agricultural students to go deeper into the bases and villages, and to improve the ability of agriculture-related students to serve the "Agriculture Rural Farmers" through production practice. To create an academic forum on "rural revitalization" in Xinjiang to disseminate excellent traditional culture.

4.3 Innovative course system

Based on the development requirements of agricultural intelligence and modernization, agriculture-related universities build new agricultural majors such as modern seed industry, intelligent agriculture and forest recreation according to the needs of rural revitalization strategy. [6] Modern biotechnology, information technology and engineering technology are used to transform and upgrade existing agriculture-related majors, and old majors that cannot adapt to the development of modern agriculture and forestry industries and changes in social demands are gradually adjusted and eliminated, so that agriculture-related majors can better adapt to the new demands for talents from new technologies, new industries, new modes and new industries. Build a number of first-class courses that can adapt to the needs of innovative, compound, application-oriented and technical skill-oriented talents training. Integrate modern information technology with teaching in depth and improve the advancedness of teaching methods. Increase the openness, research, innovation and comprehensiveness of course design, and improve the innovative thinking, hands-on ability and training quality of students in agriculture-related majors.

4.4 Innovative faculty construction

Cooperate to strengthen the training of "double-teacher" teachers in agriculture-related disciplines. It also promotes the construction of teacher development centers in agriculture-related colleges and universities, supports teachers to study and exchange with famous colleges and universities, and supports them to work in enterprises and carry out training in a targeted manner. Smooth the channel of talent exchange between schools and industries, enterprises and research institutes, explore the two-way flow mechanism of school-enterprise talents, and improve the employment mechanism of part-time teachers in industries. The company has selected a number of enterprises and senior technical personnel to serve as part-time instructors or lecturers in colleges and universities to improve the skills of teachers and increase the proportion of "dual-teacher" teachers. The teachers of agriculture-related colleges and universities go deep into the front line of agriculture and rural areas to enhance their scientific and technological innovation and professional teaching ability in practice. Take advantage of the counterpart universities to support young and middle-aged key teachers to visit schools and upgrade their degrees at home and abroad, so as to systematically improve the overall level of teachers' teaching and research.

4.5 Innovative research platform for rural revitalization

Agricultural-related universities strengthen the construction of Xinjiang Rural Revitalization Research Institute, carry out the construction of a think tank for rural revitalization strategy research, conduct in-depth research on major theoretical and practical problems in industrial revitalization, talent revitalization, cultural revitalization, ecological revitalization and organizational revitalization, contribute wisdom and solutions to rural revitalization, and provide paths and models for cultivating sufficient number and reasonable structure of agricultural and forestry talents. Enterprises in agriculture-related industries put forward scientific problems and technical difficulties encountered in the process of industrial development and enterprise management, forming a list of scientific research demands. Universities make full use of the advantages of discipline talents and counterpart support to research real problems, form scientific research teams, take the initiative to dock services, really research problems and really solve them, and enhance the support and leading ability of scientific research for industrial development.

4.6 Support the construction of Xinjiang New Agricultural Science Education Alliance

Xinjiang New Agricultural Science Education Alliance is initiated by Xinjiang Agricultural University and formed by Xinjiang industry authorities, agricultural-related institutions of higher learning, scientific research institutions, associations and enterprises, etc. It is a non-profit, public welfare social organization formed on a voluntary basis. It is a combination of new agricultural talent training and rural revitalization. Xinjiang New Agricultural Science Education Alliance adheres to the concept of open innovation, common construction and sharing, and collaborative development, and actively advocates, leads and promotes the research and construction of new agricultural science in Xinjiang. It is necessary to give full play to the role of the members of the alliance, coordinate the strength of resources from all sides, take strong agriculture and prosperous agriculture as its mission, deepen the reform of higher agricultural and forestry education in Xinjiang, explore a road of new agricultural science construction with Xinjiang characteristics, and provide strong talent support to promote the development of rural revitalization.

4.7 Discussions

Facing the national strategy of rural revitalization and facing new agriculture, new countryside, new farmers and new ecology, as an agriculture-related university in Xinjiang, how to explore a new path that is in line with both national policies and local socio-economic development is a pressing problem at present. The six paths to achieve the development of new agricultural construction in Xinjiang proposed in this paper are based on the conclusion of the research using inductive method based on the interviews with experts from agriculture-related colleges and universities, research institutes, industry enterprises and governmental authorities, and the expert demonstration sessions. This conclusion has a certain reference value and academic value for the construction of new agricultural science in Xinjiang. The disadvantage is that the research method is relatively simple, and the research method can be enriched in the future research, such as using 5W2H and other methods to study. Of course, the path selection is not the only model, but also can be further explored to improve the quality of students in agriculture and forestry, innovative evaluation mechanism, create a guarantee mechanism, etc.

5 Conclusions

Promoting the construction of new agricultural science in the context of high-quality development of higher education is the need to serve the national strategy and rural revitalization, and it is also an inevitable choice for the development of agriculture-related colleges and universities. The construction of new agricultural science must adhere to the fundamental task of moral education and cultivate innovative, compound, application-oriented and technical skill-oriented excellent agricultural and forestry talents. The key to the construction of new agricultural science is "innovation", the core of which is innovative talent cultivation system, innovative talent practice platform, innovative curriculum system, innovative faculty construction, innovative research platform for rural revitalization, and support for the construction of Xinjiang New Agricultural Science Education Union.

6 Future Works

Strengthen the construction of agriculture-related colleges and universities, and support agriculture-related undergraduate colleges and universities to strengthen their education and teaching reforms around the needs of national and local economic and social development. Support agriculture-related higher education institutions to strengthen the construction of agriculture-related majors and further enhance their ability to serve local economic and social development. Optimize the layout of agriculture-related majors, and layout new agricultural majors such as modern seed industry and smart agriculture according to the needs of the construction of the rural revitalization strategy. Deepen the opening up and cooperation with the outside world, promote the construction of disciplines and the training of international high-level talents in agriculture-related colleges and universities, and build a new system of social services mainly consisting of science and technology promotion, farmer training and the collaboration of the Xinjiang New Agriculture Education Union to enhance the effectiveness of helping rural revitalization, etc.

Fundamental Project

(1) Xinjiang New Agricultural Education Union Educational Reform and Innovation Project: Exploration and Practice of Collaborative Education Mechanism Based on the Main Body of Xinjiang New Agricultural Education Union. (2022XNJMCX04)

(2) New Agricultural Science Research and Reform Practice Project: Exploration and Practice of Xinjiang Agricultural Science Education Collaborative Education Model.

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