

Research on Cultivating International Talents in China's Agricultural Master's Program under the Context of International Education

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Abstract: China's higher education is gradually becoming more internationalized, particularly in the areas of international education and internationalization of graduate education. This trend provides important opportunities for the cultivation of high-quality international talents in the field of agriculture, particularly for the agricultural master's degree. In the process of talent cultivation, the characteristics of international talents in the field of agricultural master's degree continue to deepen. By analyzing the international talent education strategies of domestic and foreign universities, we have found that the cultivation of international talents in the field of agricultural master's degree in China needs to strengthen internationalization construction in four aspects: cultivation concepts, foreign language teaching, student training, and faculty development, in order to improve the quality of talent cultivation and enhance the international competitiveness of China's agriculture.

Keywords: International Education; International Talent Cultivation; Agricultural Master; Internationalization of Graduate Education.

1. Introduction

International education is one of the core themes of research and practice in higher education around the world, and internationalization has become an important basis and driving force for deepening higher education reform in various countries.[1] International education refers to the exchange and cooperation among higher education institutions in various countries, including extensive exchanges and cooperation between teachers and students, joint research on international and regional issues, mutual utilization of resources among higher education institutions, language learning, and the cultivation of internationally competitive talents.[2] Ultimately, the competition of comprehensive national strength among various countries is the competition of high-quality talents.[3] The "National Medium- and Long-term Education Reform and Development Plan (2010-2020)" clearly stated that it is necessary to strengthen international exchanges and cooperation, improve the internationalization level of our education, enhance the international status, influence and competitiveness of our education, and cultivate a large number of internationalized talents with international perspectives, understanding of international rules, and ability to participate in international affairs and competition. As an agricultural country, agriculture is a strategic industry in China and plays a special and important role in national economic and social development. The key to upgrading agriculture lies in talents. Major countries and regions are all focusing on cultivating high-level agricultural talents to gain a competitive advantage in the world agricultural competition. The interconnectivity of agriculture is increasingly high, and China urgently needs a group of high-quality, internationally minded and innovative talents in agriculture to achieve a competitive advantage in world agriculture. Graduate education is the main way to cultivate high-level talents, so it is urgent to cultivate international talents in agricultural

master's programs. We need to build a diversified and internationally competitive talent team to meet the needs of China's development for high-level agricultural talents. This article proposes cultivation suggestions that are helpful for the construction of an internationalized talent team for agricultural master's programs in China by analyzing the characteristics of internationalized talents in agricultural master's programs and domestic and foreign educational strategies.

2. Characteristics of Internationally-Oriented Talents in Agricultural Master's Degree Programs.

Internationalized talents refer to high-level talents who have international awareness, a global perspective, and world-class knowledge structure and capabilities. They are adept at seizing opportunities and taking the initiative in global competition. The cultivation of internationalized talents with knowledge, skills, qualities, and perspectives is particularly important for the field of agriculture.[4] Specifically, the characteristics of internationalized talents in agricultural master's programs need to be cultivated in terms of knowledge, skills, qualities, and perspectives.

2.1. Solid Knowledge

Due to the needs of national development and the goals of talent cultivation, agricultural master's international talents are required to have a solid professional knowledge base and a broad range of general knowledge. In the professional field, agricultural master's international talents need to master theoretical knowledge, establish a reasonable knowledge framework system, and have sensitivity to the international development trend of the field. In the practical field, they need to learn to flexibly apply theoretical knowledge to solve practical problems, have exquisite operational skills, and the ability to coordinate production work involving multiple

factors. In the research and development field, international talents need to have the ability to analyze, simplify, and organize problems, establish a lifelong learning concept, and have an innovative spirit to promote the upgrading of agricultural theories and technologies in China.

2.2. Language Ability

The cultivation of international talents in agricultural master's degree programs is globally oriented, and possessing fluent language communication skills is essential. In terms of general language proficiency, international agricultural talents need to have a rich vocabulary in foreign languages in order to understand and absorb foreign literature, as well as to master foreign language writing skills to showcase China's wisdom to the world. In terms of language practice, they need to have fluent oral expression abilities to raise questions and express opinions at international academic forums, and to be able to communicate with foreign scholars in a friendly manner and participate in practical activities. In terms of language and culture, international talents need to have the ability to understand, respect, and accept cultural differences

through language in order to adapt in diverse environments.

2.3. Comprehensive Quality

Comprehensive quality refers to the patriotism, international perspective, and international competitiveness of individuals. The core of cultivating international talents is to have a "Chinese heart." International talents in universities must have high political and ideological qualities and a healthy psychological state. They should be able to withstand the impact of diverse cultures and not lose the personality and national character of the Chinese nation while becoming international.[5] In addition, international talents should broaden their international horizons, pay attention to international trends and Chinese development, and use international thinking to solve Chinese problems. Improving the "international competitiveness" of international talents is the ultimate goal of cultivating agricultural masters. This requires agricultural masters to have a practical learning attitude, scientific and effective learning methods, and a scientific spirit of exploration, constantly improving their comprehensive quality.

Table 1. Characteristics of International Talents for Master of Agriculture

Solid academic knowledge	Field of expertise	Proficient in theoretical knowledge
		Establish a reasonable knowledge framework system
		Have a keen sense of the international development trends in the field.
	Practice Field	Flexibly apply theoretical knowledge to solve practical problems
		Possess excellent operational skills
		Coordinate production work involving multiple factors
	Research and Development Field	Analyze, simplify, and organize problems
		Establish a lifelong learning philosophy
		Innovative spirit
Language proficiency	Common Language	Ability to understand, comprehend and absorb foreign literature Proficiency in writing in foreign languages
	Language Practice	Fluent spoken communication and the ability to understand,
	Language and Culture	respect and accept cultural differences around the world.
Comprehensive quality	Love for the country	Chinese ethos
	international perspective	Dedication to seeking truth and unification with the international community
	international competitiveness	Pragmatic learning attitude Scientific and effective learning methods with an exploratory spirit

3. Analysis of International Education Strategy for Agricultural Master's Degree in Higher Education Institutions

3.1. Comprehensive Quality

Internationalization of education usually requires a good economic foundation, a stable social environment, an open social system, and education policies. Therefore, internationalization of higher education is more easily

developed in developed countries. In contrast, China started relatively late in the internationalization of higher education and lacks relevant experience in cultivating international talents. Therefore, studying the international talent training methods of well-known foreign universities is an important way to improve the construction of China's international talent pool.

3.1.1. Comprehensive Quality

World-renowned universities have not only established teaching contacts and exchanges, but also conducted far-

reaching and long-term cooperative relationships in a series of fields such as education, teaching, scientific research, and management.[6] Massachusetts Institute of Technology (MIT) has established the internationally famous MIT International Science and Technology Initiatives (MISTI), which fully funds its agricultural master's students every year to study and exchange at well-known universities and scientific institutions abroad. The University of California, Berkeley places great emphasis on international exchange and cooperation, providing international exchange opportunities in the field of agriculture that cover nearly 50 countries and over 200 institutions every year.[7] In addition, the University of Michigan has also launched a program called "Michigan Compass" to support students studying abroad. Its agricultural master's students can choose from projects covering 141 countries worldwide and study and exchange with teachers around the world.

3.1.2. Teaching Content

World-renowned universities emphasize the internationalization of curriculum and the enhancement of students' comprehensive qualities in the cultivation of international talents. The internationalization of master's programs in agriculture in American universities includes setting up special international education courses; integrating the latest international research trends in agricultural disciplines into existing courses; offering courses related to international issues and themes in agricultural disciplines; providing courses on world politics, society, and culture; and offering various language and international exchange network courses.[8] The internationalization of master's programs in agriculture in Japanese universities expands the international benchmark courses, establishes direct teaching connections with foreign prestigious universities through online networks, and regularly holds online seminars. In terms of teaching practice, students are actively arranged to intern in multinational corporations and international organizations to cultivate their international career perspectives.[9] In addition, Japanese universities adopt mixed teaching, which mixes domestic and international students in class, not only broadening the international perspectives of domestic students but also enabling students to better experience the diversity of the world and enhance their international comprehensive qualities.

3.1.3. Teaching Staff

In terms of faculty development, universities in developed countries place great emphasis on the internationalization of their faculty and invest heavily in enhancing their internationalization levels. American universities have been committed to cultivating an international faculty team through two main approaches: first, actively recruiting high-level personnel with international backgrounds; second, sending teachers abroad for academic exchanges, scientific cooperation, and research. At Harvard University, 34.9% of faculty members have studied abroad, with some majors exceeding 50%. In addition, agricultural faculty members at Harvard University travel to 20 countries each year to conduct collaborative research projects. The Massachusetts Institute of Technology has been dedicated to building an international campus, with international faculty accounting for 42% of the total faculty. UC Berkeley has set up a special fund to provide opportunities for agricultural faculty members to study abroad. The University of Michigan hosts a large number of visiting scholars in agricultural disciplines each year, and the exchange of ideas between faculty members and visiting

scholars brings new perspectives to the university and its students, creating a more international academic atmosphere.

3.2. Analysis of International Education Strategies for Agricultural Master's Programs in Domestic Universities.

International education is one of the important directions in modern university construction, and cultivating international talents has become an inevitable trend in the era of social development. Domestic universities are also increasingly emphasizing the cultivation of international talents. However, the cultivation of international talents in China's agricultural master's programs is still in its early stages, and domestic universities are continuously exploring and learning to improve their agricultural master's international talent cultivation systems.

3.2.1. Target of Cultivation

Different universities in China have different goals in cultivating international talent. In Hong Kong and Macao, graduate education generally focuses on cultivating high-level talents with international vision to promote global development. For example, the University of Hong Kong positions itself as an "Asia international university," aiming to attract and cultivate global talents through excellent research, teaching, and exchange of knowledge and technology. Its master's degree in agriculture emphasizes international vision and compliance with international standards, and the ability to participate in international affairs to promote social progress.[10] Similarly, the University of Macau is committed to becoming an internationally recognized excellent institution, cultivating high-level talents in agriculture who are globally competitive, capable of solving related scientific problems, and making contributions to the progress of human civilization.[11] In addition, the "Overall Plan for Promoting the Construction of World-Class Universities and First-Class Disciplines" clearly states that it aims to accelerate the construction of world-class universities and disciplines, enhance China's comprehensive strength and international competitiveness in higher education, and provide strong support for realizing the "Two Centenary Goals" and the Chinese Dream of national rejuvenation.[12]

3.2.2. Training Objectives

Currently, the main source of students for agricultural master's programs in Chinese agricultural universities are recent graduates, with only a few working professionals. Apart from the agricultural management majors, most students in other agricultural disciplines maintain consistency with their undergraduate and graduate majors. The main approach for cultivating agricultural masters in China is through both "going out" and "bringing in" strategies.[13] The "going out" plan is usually completed through joint talent cultivation programs with other well-known universities worldwide, using methods such as multi-level selection, school funding, course learning, and credit certification to complete short-term overseas studies. On the other hand, the "bringing in" approach mainly involves enrolling graduate students from non-developed countries in Asia, Africa, Latin America, etc., to pursue agricultural master's degrees. There are not many high-level foreign students pursuing doctoral degrees. The Chinese government allocates a scholarship of 6,000 yuan/person per year to agricultural master's students. Each university will also set up different levels of scholarships based on its financial strength. For example,

Sichuan University of Science and Engineering offers first, second, and third-class scholarships of RMB 10,000, 8,000, and 6,000 yuan, respectively, to encourage outstanding agricultural master's students. The number of award-winning students usually accounts for one-third of the total number of students in the class.

3.2.3. Training Mode

The internationalization of curriculum not only refers to the use of internationally common languages in teaching, but also includes the tendency of internationalization in the course system or the presence of courses with international characteristics. The postgraduate curriculum at the Hong Kong University of Science and Technology is divided into core courses, elective courses, and seminars, all of which have a certain degree of internationalization. The agricultural postgraduate curriculum at the Hong Kong University of Science and Technology includes a series of interdisciplinary international elective courses, involving philosophy, language, and culture, with a focus on development issues in China and the Asia-Pacific region. In terms of international exchange, domestic "Double First-Class" universities in agriculture and related fields not only carry out major international cooperative research projects or establish joint laboratories with foreign famous universities and multinational companies, but also choose to jointly cultivate students with renowned foreign universities, sending students to study, exchange and cooperate abroad, and incorporating this initiative into their training plan. The teaching assessment of domestic agricultural master's programs mainly consists of theoretical knowledge examination and practical ability examination, adopting a dual mentor system of "internal and external mentors", but the international background of the "internal mentors" is not high, with few local teachers having foreign degrees and few foreign teachers.

4. Design of International Talent Cultivation Path for China's Master of Agriculture

4.1. Emphasizing the Internationalization of Training Philosophy

Clear and explicit educational philosophy is a distinctive feature of the international talent cultivation system and an important guarantee for international talent cultivation. The development of educational philosophy must be combined with the social needs for talent cultivation, foresee the future direction of talent cultivation, and integrate the characteristics of the school to have a targeted and far-sighted approach. At the national level, China's international talent cultivation for agricultural masters should establish clear talent cultivation goals and establish them as a national development strategy. Looking at the international talent cultivation systems of developed countries, they have received support from national policies and funding. Therefore, the Chinese government should issue special educational plans for international talent cultivation of agricultural masters, increase financial support for their international talent education, and provide institutional safeguards and funding subsidies for the development of international talent for agricultural masters. At the school level, agricultural master universities need to determine the philosophy of international talent cultivation from a strategic perspective. In the educational philosophy of Western agricultural universities,

"nature", "humanity", "society", "food safety", "climate change", "sustainable energy supply", and "global vision" are high-frequency words. Therefore, the educational philosophy of Chinese agricultural master universities should be based on the international community and firmly establish a consciousness of "a community of shared future for humanity". An international information sharing and resource integration platform is an important carrier for achieving internationalization of educational philosophy. It is beneficial for promoting effective linkage and multidimensional interaction between local and international education and maintaining stable cooperative relationships between schools and well-known foreign universities: regular academic exchanges, cooperation in international scientific research activities, exchange of international students, exchange of international courses, and more. Through these collaborations, the local schools can improve their international reputation, international academic capabilities, and international competitiveness.

4.2. Comprehensive Education that Emphasizes Foreign Language Teaching

International talents represent the image of a country, and their language ability is an important medium for demonstrating their abilities. Cultural exchanges, academic discussions, and scientific research all rely on language, while Chinese culture, Chinese thoughts, and Chinese virtues also require language dissemination. Therefore, international agricultural master's degree holders should possess a variety of language abilities, including listening, speaking, reading, writing, and translation. In terms of listening, universities should create a good international learning atmosphere for international agricultural master's degree holders by hiring foreign teachers to offer all-English language courses and gradually increasing the proportion of foreign language teaching. In terms of speaking, schools should actively build overseas learning platforms, provide opportunities for overseas exchanges, and improve students' oral proficiency. In regular teaching activities, students should be encouraged to engage in foreign language communication, and "International Culture Festivals" should be organized to provide students with opportunities to make foreign friends and practice their oral skills. In terms of reading and translation, schools can use English textbooks in part to enhance students' ability to accept English teaching and lay a foundation for future overseas studies. Teachers can assign foreign language reading assignments after class to improve students' foreign language reading and translation skills and broaden their academic horizons. In terms of writing, foreign language teachers should guide students in English writing, train their English thinking and foreign language writing abilities. In addition, schools can set up reward mechanisms based on TOEFL, IELTS, and other foreign language test scores to improve students' enthusiasm for foreign language learning. International agricultural master's degree holders should possess a variety of language abilities to demonstrate the international image of Chinese higher agricultural education.

4.3. Emphasizing the Cultivation of International Students

The cultivation of international talents is centered around students, with the core of cultivation being student-centered, including their learning, learning outcomes, and development.

This process should provide support for the internationalization of students. The cultivation system for international agricultural master's talents should break the traditional talent cultivation model, and be built around disciplinary literacy, cross-cultural communication abilities, and patriotism, promoting comprehensive development of talents and increasing international competitiveness. In terms of curriculum design, emphasis should be placed on the integration of theoretical and practical courses. Students should receive practical courses while studying theoretical knowledge to enhance their practical abilities and achieve a combination of theory and practice. In addition, cross-disciplinary integration should be strengthened, and courses on international politics, philosophy, culture, etc. should be offered to enhance the humanistic qualities of international agricultural master's talents. In terms of curriculum system, attention should be paid to the overall systematic nature of the curriculum, breaking down barriers between courses, establishing links between courses, and improving students' disciplinary literacy. In terms of teaching content, teachers should break away from the traditional "cramming" teaching method and adopt a heuristic education approach, imparting less declarative knowledge and sharing more practical experience-based knowledge. In the process of talent cultivation, "Chinese values" are fundamental, and their focus is on students' patriotism. It is necessary for graduate schools to offer ideological and political education courses, but relying solely on these courses to cultivate students' patriotism is not enough. Patriotism education should also be integrated into regular professional courses to deepen students' patriotism.

4.4. Internationalization with Emphasis on Faculty Development

Having a teaching staff with broad international perspectives, strong international awareness, agile international thinking, and rich international knowledge is the key force to promote internationalization in university teaching, research, and talent development. Strengthening teacher training is crucial to enhancing the internationalization of agricultural master's degree programs. To do this, it is essential to increase the internationalization level of the teaching team and create a good teaching atmosphere. Firstly, it is important to expand the breadth and depth of the study abroad programs for university teachers to broaden their international perspectives, increase international cooperation opportunities, and improve their academic exchange capabilities. This can be achieved by increasing opportunities for our teachers to study at top universities or research institutions overseas, encouraging young teachers to pursue overseas doctoral degrees, and innovating the funding model. For example, a "teacher-student joint exchange" program could be added to policies that support teachers' study abroad. This would allow teachers to select individual students and study abroad together in a team, cooperating to complete academic research tasks during their study visits. Secondly, agricultural master's degree programs should focus on the internationalization of "off-campus mentors". Schools can hire workers with overseas work experience as off-campus mentors to shape students' international discipline thinking and enhance their ability to handle international affairs. At the same time, schools can organize teachers to participate in training programs hosted by large international agricultural technology companies

during winter and summer breaks. This will help teachers improve their own internationalization level and bring back more international thinking and experience, further enhancing their teaching abilities. Lastly, establishing joint training programs with well-known universities at home and abroad can send students to study and research at overseas universities, enhancing their international perspectives and abilities. Through cooperation with foreign universities, students can be exposed to advanced teaching content, concepts, and methods, while also enhancing the international influence and competitiveness of our country's agricultural master's degree programs.

5. Conclusion

Under the backdrop of international education, internationalization of higher education, and the driving force of the agricultural industry, China needs to strengthen the cultivation of international talents for agricultural master's degree programs. Renowned universities in developed countries are at the forefront of cultivating international talents, and they have developed a mature and complete system for talent cultivation in terms of educational philosophy, international exchange, teaching content, and faculty construction, which is worth learning from. However, China's cultivation of international talents for agricultural master's degree programs needs to be based on its own conditions and cannot blindly imitate, otherwise it may backfire. In addition, Chinese universities have varying levels of economic and academic capabilities, as well as student qualities, therefore, in the cultivation of international talents for agricultural master's degree programs, it should be implemented in stages, by levels and categories. Chinese agricultural master's degree programs can strengthen internationalization construction from four aspects: educational philosophy, foreign language teaching, student cultivation, and faculty construction, to cultivate international talents that meet China's social development needs and improve China's world competitiveness in agriculture.

Acknowledgments

This work was financially supported by National Steering Committee of Agricultural Graduate Education project "Comparative and Inspirational Research on the Cultivation of Master of Agriculture Talents between China and Japan in the Context of Internationalization of Education" (No. 2021-NYYB-17) and Graduate Education Reform Project of Sichuan University of Science & Engineering (No. JG2022 13).

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