# Training Course on Green Super Hybrid Rice Variety Breeding, Seed Production and Cultivation Technology for Developing Countries

Name	Training Course on Green Super Hybrid Rice Variety Breeding, Seed Production and Cultivation Technology for Developing Countries				
Organizer	Yuan Longping High-tech Agriculture Co.,Ltd.				
Time	June 7 <sup>th</sup> ~June 20 <sup>th</sup> , 2023		Language	English	
Invited Countries	Developing Countries		Number of Participants	25	
Purpose	This training aims to 1) make an introduction to China's national conditions and culture, 2) focus on introducing Chinese green super hybrid rice variety breeding, seed production and cultivation technology so that the participants can apply the relevant technology in their own country, 3) share China's successful experience to provide a reference for developing countries to improve the rice productivity, and 4) promote mutual exchanges and cooperation between China and developing countries in the field of super hybrid rice production.				
Requirements for Participants	Professional Background	Area or specialty: working and specialty in agriculture fieldsPosition: Government officials, researchers and technicians in related agriculture fields			
	Age	Not exceed the statutory retirement age in participant's own country			
	Health Condition	Be in good health and capable of attending online courses as scheduled			
	Language Proficiency	Fluent in English (listening, reading, speaking and writing)			
	Others	Participants have access to software such as the Zoom or VooV Meeting. The organizer will provide guidance and technical assistance remotely.			

### 1. Training objectives

The training aims to strengthen cooperation and exchanges between China and developing countries in the field of agriculture and super hybrid rice research and production. It will last for 14 days, with English as the working language. The training will be conducted through online lectures, exchange meetings, online visual visits and visual internships, and well-known industry experts and scholars and representatives of agricultural high-tech enterprises of China will be invited to give lectures. The training program will introduce green super hybrid rice variety breeding, seed production and cultivation technology, share China's experience in super hybrid rice research and production, and high-yield rice cultivation technology. Special sessions will also be organized on specific practical cases to inspire trainees to think about relevant initiatives to improve rice research and production in developing countries.

#### 2. Main training courses and the outline in brief

- (1) China's national conditions and achievements in reform and opening up: Introduction to China's development status of Politics, economy, society, culture, etc and China's successful experience in reform and opening up.
- (2) Green super hybrid rice breeding technology: Introduction to the utilization of heterosis in rice, the principles and methods of super hybrid rice breeding.
- (4) Green super hybrid rice seed production technology: Parental population composition and management technology, the flowering synchronization of parental line, flowering time prediction and regulation technology, the outcrossing posture and improvement of sterile lines and artificial pollination, etc.
- (5) Green super hybrid rice high-yield cultivation techniques: Super hybrid rice yield formation elements, super hybrid rice dry matter production and reservoir source relationship, super hybrid rice production stage characteristics and nutritional needs, super hybrid rice nutrition physiology and fertilization techniques, super hybrid rice water physiology and irrigation techniques, hybrid rice machine transplanting and super rice cultivation techniques, etc.
- (6) Other related agricultural technologies: Rice planting mechanization technology, hybrid rice inspection and quarantine technology and molecular breeding technology, etc.

#### 3. Online virtual visits

- (1) Online virtual visit will be arranged in the hybrid rice exhibition hall of the China National Hybrid Rice Engineering Technology Research Center to learn about the history of hybrid rice development and understand the important role of hybrid rice in alleviating the world food crisis.
- (2) Online virtual visit will be arranged in the world's largest rice breeding base, Longping High-tech Guanshan Rice Base, to know more about hybrid rice breeding and some cultivation

**Training Content** 

techniques.

#### 4. Online virtual field practice

Online virtual filed practice will be conducted at Changde Hejiashan Original Seed Farm. The main contents will include: the preparation of rice seedling field, super hybrid rice seed soaking and germination technology, plastic tray seedling, leaf age record, emasculation technology by cutting rice glume and crossing technology, spraying GA3, artificial pollination technology, seed germination test, seed indoor inspection technology, super hybrid rice field yield measurement, rice mechanized harvesting technology, etc.

## 5. Brief introduction of lecturers and professors

- (1) Prof. Zou Yingbing, professor and PhD supervisor of Hunan Agricultural University, with the state professional title researcher. He has rich experience on the education and research of rice cultivation technology for more than 40 years, and obtained a number of national R&D patents, being a well-known expert and scholar in the rice cultivation.
- (2) Prof. Huang Dahui, chief trainer of Longping High-tech International Training Institute, senior expert of ATE in China National Hybrid Rice Engineering Technology Research Center. He has rich experience in international agricultural technical cooperation projects, training management and teaching experience for more than 20 years.
- (3) Prof. Xie Jun, professor of Hunan University. She has rich experience in international exchanges and cooperation for decades. Prof. Xie has mainly engaged in English teaching and translation, Chinese culture and national conditions research, etc.
- (4) Prof. Liu Chunlin, professor and PhD supervisor of Hunan Agricultural University. His main research direction is crop genetic breeding (molecular marker-assisted breeding and genetic engineering). He has worked at the University of Amsterdam in the Netherlands, the Uppsala Genetics Center in Sweden, and the National Institute of Agricultural Environment in Tsukuba, France, and CNRS in France and The Institute of Plant Cell Molecule (IBMP) as visiting scholars, postdoctoral fellows, and senior researchers.
- (5) Prof. Luo Haifeng, Associate Professor of Hunan Agricultural University, whose main research direction is agricultural mechanization equipment research. He has presided over 5 scientific research projects such as sub-projects of the National Science and Technology Support Program, provincial (ministerial) level research projects, etc., and won several awards. He has studied in the United States for one year, and has more than 10 years of experience in teaching China Aid training programs.
- (6) Mr. Weng Yong, Senior agronomist, served as deputy director of Longping High-tech International Training Center, senior agronomist, tutor for post-graduate students of China-Africa

agricultural development and cooperation base of Hunan Agricultural University. He has served as general manager of Longping high-tech Tea Company and vice general manager of agricultural development company, with more than 20 years of experiences in agricultural technology application demonstration and extension. Besides, He has served as the head of the expert group of China's agricultural technical cooperation project with other country, and gathered rich experiences in management and teaching.

- (7) Mr. Chen Xiaoliang, Senior agronomist, has nearly 30 years of experiences in agricultural technology application demonstration and promotion. He has been abroad many times as the head of the expert group of China's agricultural technology aid projects, and has 20 years of experiences in the management of China-Aid agricultural projects and training management and teaching.
- (8) Prof. Yang Yaosong, Researcher of Hunan Hybrid Rice Research Center, whose main research interests are the promotion of hybrid rice abroad and import and export trade. He has more than 20 years of teaching experience in China Aid training programs.
- (9) Mr. Tan Xusheng, Senior Agronomist, whose main research contents are agricultural science and technology management and hybrid rice seed production. He has been involved in teaching the China-aid hybrid rice training programs since 2004, and his lectures include three-line hybrid rice parental propagation, hybrid rice seed production and hybrid rice seed storage and processing practice.
- (10) Mr. Jiang Shouquan, Senior Agronomist, whose main research contens are hybrid rice high-yield cultivation and seed production. He has been involved in the China Aid hybrid rice training program since 2004, and his lectures include hybrid rice cultivation and seed production practices.
- (11) Mr. Zeng Yuehua, Senior Agronomist, started to participate in the China Aid hybrid rice training program in 2007, mainly teaching hybrid rice cultivation management and regional trials
- (12) Mr. Fang Jie, Agronomist, has been involved in the China Aid hybrid rice training program since 2007, mainly teaching hybrid rice cultivation.
- (13) Ms. Zeng Fenghuang, Agronomist, started to participate in the China Aid hybrid rice training program in 2009, mainly teaching hybrid rice seed testing.
- (14) Prof. Tan Yanping, Associate Professor of Hunan Agricultural University, has ever been to San Francisco to teach Chinese as a foreign language for one year in 2006. She began to participate in the China Aid training program in 2008.

#### 6. Materials to be prepared by the trainees

In order to facilitate exchanges with Chinese experts, please prepare materials related to the subject of the training of your country, such as: 

Introduction of your profession and your

	institution; □Current status and existing problems of rice production in your country; □ Cooperation between your country and other countries or international organizations in rice production; □Agricultural cooperation between your country and China; etc.  Final test/assessment  In the form of test questions or essays					
Host City	Changsha City, Hunan Province	Cities of Virtual Tours	Changde City, Ningxiang County, Hunan Province (subject to change)			
Notes	<ol> <li>The training program will be held online, which requires participants to prepare necessary equipment and devices such as internet connection, computer, microphone, camera, etc.</li> <li>Participants should be punctual and well-disciplined. The Certificate of Completion will be issued to those who meet all the requirements including good attendance records.</li> <li>Participants should enter the virtual classroom in advance with the screen name "NAME + COUNTRY" identical to the passport information.</li> <li>Participants should respect and maintain the confidentiality and security of the information and data concerning the Seminar. Course materials will be shared to participants after class, which shall not be made public or posted via social media.</li> <li>Participants should prepare report for discussion session(s) as scheduled.</li> </ol>					
About the Organizer	Yuan Longping High-tech Agriculture Co., Ltd. (hereinafter referred to as Longping Hightech) is an international seed company named after the Academician Yuan Longping, the "Father of Hybrid Rice". CITIC Group is the controlling shareholder. Established in 1999 and listed in 2000, Longping High-tech ranked the 8th of seed industry around the world in terms of comprehensive strength in 2018. Longping High-tech is awarded as "China-aid Hybrid Rice Technology Training Center" by the Ministry of Commerce of China.  Longping High-tech is mainly engaged in the seed business of hybrid rice, maize, vegetable, millet, edible sunflower, wheat, cotton and rape seeds, and provides agricultural services such as new-type professional farmers training, precision planting, quality grain trading, field restoration and development, brand agriculture, agricultural finance, etc The company has built a globalized					

commercial breeding system. With more than 10% of its operating income in R&D investment, Longping High-tech has established R&D centers in China, the Philippines, Pakistan, India, Brazil and USA, etc.. Its R&D and innovation capability of main crop seeds rank at the top level in the world.

Seizing the opportunity provided by the Belt and Road Initiative, Longping High-tech makes full use of its leading position in rice and maize seed industries and promotes its international operations around the world with subsidiaries established in the Philippines, India and Timor-Leste and trade ties with more than 40 countries and regions. At the same time, Longping High-tech actively carries out international training programs and agricultural cooperation, and has trained nearly 10,000 agricultural talents from more than 100 countries in Asia, Africa and Latin America, the South Pacific Region. Besides, Longping High-tech has undertaken more than 20 China-aid projects on technical cooperation, helping developing countries develop agriculture and solve food security with China's advanced agricultural technology, and making a significant contribution to global food security.

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