

Sowing Seeds of Success & Friendship

Dialogue

By LONG Yun & BI Weizi

On November 9, 2001, Chuanchai Pongsai left his hometown of Chiang Mai, Thailand, and arrived in China's Yunnan province for further studies. At that time, he envisioned more high-quality maize seeds being available in Yunnan province, in order to boost the crop yields.

Vision becomes reality
Some 22 years later, as the Senior Vice President of Yunnan Chiatai Seed Company, Chuanchai and his team have made remarkable progress in promoting the development of Yunnan's seed industry. They developed hybrid maize seeds that are well-suited to the local environment, significantly boosting maize yields.

"Yunnan used to rely on northern seeds for maize cultivation, but the mismatch with the local soil and climate led to lower-quality maize production," Chuanchai said in a recent interview with *S&T Daily*. "Yunnan boasts a complex and diverse ecosystem, which presents both opportunities and difficulties for our work," he said.

In his daily work, Chuanchai walks through the maize fields at the research base, observing the changes of each seed in the soil. Almost every day, he monitors and guides technicians in planting work, with the aim of finding the most suitable combination of maize genes. It is a laborious and repetitive task, but as he said, "This is where my passion lies."

As time passed, his team gained some success from their hard work. Over 30 maize varieties emerged in the



Chuanchai Pongsai works at the maize field. (COURTESY PHOTO)

research base and thrived in this region.

According to Chuanchai, maize seed development is a combination of science and technology, art, and luck. He further explained that technology is essential, but selecting the right combination of maize genes is an art, requiring imagination and creativity. And a bit of luck is necessary for combining these elements to develop high-quality, high-yielding maize varieties.

Quality breeding is very important

The Thai maize expert attaches great importance to high quality breeding. "High quality breeding is a key factor in achieving agricultural productivity, sustainable development of agriculture, and resilience to extreme weather," said Chuanchai.

In 2005, Chuanchai pursued a PhD at Yunnan Agricultural University, majoring in crop genetics and breeding. This

educational background laid the foundation for his subsequent work. With his Chinese colleagues, Chuanchai dedicated himself to seed development. Their "Zhengda 619", a high-quality maize variety, received the honor of "National Outstanding Contribution to Maize Inbred Lines." This achievement not only significantly increased local maize yields, but also encouraged more experts to adopt this new breeding model, furthering research and selecting new high-quality varieties, offering more possibilities for upgrading maize seeds and advancing the maize seed industry.

Chuanchai's goal is to develop new varieties continually. With the environment and climate constantly changing, maize seeds need to be upgraded to adapt to these changes. Otherwise, old varieties that are not suited to the environment will lead to decreased yields, affecting farmers' incomes and even threatening local food security.

After achieving success in low-altitude maize seed development, Chuanchai and his team continued to push the envelope. They continued to establish new research bases in areas like Xuanwei city and Huize city in Yunnan, expanding their research into mid-to-high altitude maize seed development.

Chuanchai has left his footprint across 15 different regions in Yunnan for 22 years. He often collaborates with local farmers, helping them select the right seeds for their specific soil and climate conditions. His primary concern when visiting these areas is whether the seeds he recommends lead to increased yields and higher incomes for the farmers.

A journey never ends
He feels a deep connection to Yunnan. "I love Yunnan, and I am a son-in-law of Yunnan," said Chuanchai, adding that he no longer feels like an outsider. Today, he can fluently communicate his research findings in Chinese and even have conversations with the local people in the Dai ethnic dialect.

To Chuanchai, the world's land resources are finite. He remains dedicated to improving the quality and yield of food crops on this limited land in Yunnan, providing more solutions for increased productivity and income for farmers.

The Lancang River flows through Yunnan, and it eventually becomes the Mekong River in Thailand. "China and Thailand are like one family," said Chuanchai, adding that the Belt and Road Initiative will continue to play a crucial role in promoting technological cooperation and people-to-people exchanges between the two countries.

Moreover, all Chinese universities focus on international cooperation, and you can find an international cooperation and exchange office or an overseas education school at every university. With the increasing influence of Chinese scientists and universities in the international academic community, China has become a hot spot for international students.

My China Story

Developing Your Career, Realizing Your Dream in China

By Md Altab Hossin

Safe, peaceful, and flexible with a friendly environment — these are the qualities in China that have helped convince me to advance my career and settle down to a stable life in the country. I have never seen or encountered any violence during my stay in China. The law enforcement system and police are always active and people can move about freely without any risk to our safety. For example, the surveillance systems in most public infrastructure reduce the risk and allow us to go about our daily lives peacefully.

In addition, the Chinese government always takes the initiative to monitor and control the price of goods, thus reducing the pressure on our lives. The convenient transportation systems, including highways, bullet trains, and modern airports improve our communication and traveling needs, allowing us to reach any destination within a scheduled time. All these conveniences are made possible by the dynamic policies and implementation of China's all-round socio-economic development plan. All these factors are very important for people to settle their minds, grow, and enjoy life here in China.

Research-friendly environment

With the help of state-of-the-art laboratory facilities, technological support and professional faculty members, Chinese universities always provide students with high-quality education at a very affordable price. In addition, the government, universities and other institutions offer various kinds of scholarships to support needy international students. In particular, the Belt and Road Scholarship provides a very good opportunity for international students to pursue their higher education in China.

Moreover, all Chinese universities focus on international cooperation, and you can find an international cooperation and exchange office or an overseas education school at every university. With the increasing influence of Chinese scientists and universities in the international academic community, China has become a hot spot for international students.

Having worked closely at various professional levels, including interpreter for a Chinese company, chief representative of Walton Group's China office, a postdoctoral research position, and high-end foreign expert, I have found that the systematic work environment and policies in China allow us to grow our careers with fairness.

Another advantage of China is its resource and innovation ecosystem. It is easier to research and develop a product here because of the available integrated resources. For example, during the recent 2023 Foreign Expert Symposium in Chengdu, I had a chance to feel the atmosphere of scientific and innovation-oriented development around Chengdu. In particular, the impressive ideology such as transportation-oriented development (TOD), incubators for entrepreneurs, and services and facilities for talents and enterprises is much more advanced and dynamic. This atmosphere allows enterprises to grow better and dynamically develop their products at affordable prices, upgrade faster and lead the global market while attracting and retaining their talent.

With the all-round fast and innovative development and international cooperation, China needs a lot of international talent, scientists and professionals to work closely with Chinese partners. Whether you want to work or start a business, China is becoming the ideal place to adapt to the global market and realize your dream.

Md Altab Hossin, from Bangladesh, serves as a high-end foreign expert at the School of Innovation and Entrepreneurship, Chengdu University.

Expats Activities

BMDAC Promotes China-Canada Medical Exchanges

By ZONG Shihan

On October 26, a medical team from the Bethune Medical Development Association of Canada (BMDAC) arrived at the Meizhou People's Hospital in Guangdong province to engage in in-depth academic exchanges and signed an agreement to jointly establish a technical cooperation hospital. It was the

first time to start its China tour after a three-year hiatus.

The BMDAC was founded in Toronto in 2011 to carry forward Bethune's spirit through medical exchanges between China and Canada. It has organized 19 trips to China for medical experts from Canada to offer free medical consultations. They treated more than 1,000 patients, undertook more

than 500 surgeries, and gave more than 600 academic lectures.

Dr. Lee Errett, president and founder of the BMDAC, said the association will continue to promote medical research exchanges between China and Canada and contribute to jointly addressing global challenges.

This time, the BMDAC experts are conducting medical exchanges with more than 20 hospitals in 12 provinces. Geng Junwu, director of the Foreign Experts Working Group of the Ministry of Human Resources and Social Security, said the cooperation has promoted talent and technological exchange between the two countries, and helped more people benefit from medical innovations.

The BMDAC has deepened its cooperation with China through borderless medical technology, facilitating the construction of a community with a shared future for mankind.

Zhao Liang, deputy director of the Office of Overseas Institutions of China Association for International Talent Exchange of Personnel, said China will continue to promote better cooperation with other countries in science and technology, education and healthcare.

Lao Zhihong, director general of the Administration of Foreign Experts Affairs of Guangdong Province, said more foreign experts and international friends are welcome to participate in Chinese modernization in the province.

Zhong Weiji, secondary inspector of the Meizhou Municipal People's Government, said the cooperation with the BMDAC will promote progress of Meizhou's medical industry. Zhong Zhixiong, president of the Meizhou People's Hospital, said it will help the hospital build a higher-level medical talent training platform.

The BMDAC delegation also visited cultural landmarks, such as the Hakka Museum dedicated to the Hakka ethnic group, and the Marshal Ye Ji-aying Memorial Park in Meizhou, getting to know the Chinese culture and history.

"Through these activities, the more I learn about China, the more I appreciate it," Errett said.



The BMDAC signs a cooperation agreement with the Meizhou People's Hospital. (PHOTO: Meizhou People's Hospital)

Southward-pointing Cart Mechanics

Traditional Eastern Wisdom

By BI Weizi

The southward-pointing cart was a historic mechanical device, which was invented and used earlier than the compass. More than five thousand years ago, ancient Chinese had utilized it to indicate direction.

Originally, the southward-pointing cart was one of the ceremonial vehicles used by ancient emperors to demonstrate their superiority, and was later used to point south in the battlefield.

According to some extant ancient Chinese texts, the southward-pointing cart was a two-wheeled wagon drawn by horses, usually with a wooden figure standing on top with one arm extending forward. The rotating wheels mechanically operated a gear mechanism to keep the hand pointing south.

The cart had no magnets and did

not automatically detect which direction was south. At the beginning of a journey, the hand would point south. Then, as the chariot turned, the mechanism would rotate the hand relative to the body of the cart to counteract the turning and keep the hand pointing in a constant southerly direction. The mechanism thus performed a kind of directional dead reckoning, but which was inherently prone to cumulative error and uncertainty.

Wang Zhenduo, a famous Chinese historian of science and technology, restored and made a model of the southward-pointing chariot based on years of research and documentary records, which is now collected in the National Museum of China.

The southward-pointing cart is manufactured according to the automatic clutch gear system, which is similar to the differential gear used in modern automobiles, with the advantages of being smooth and precise. It reflects an outstanding achievement in the practical application of ancient Chinese mechanics.



A model of the southward-pointing cart is presented at the National Museum of China. (PHOTO: VCG)

Why Sky Looks Bluer in Autumn

Science Outreach

Edited by ZONG Shihan

To understand why the sky looks bluer in autumn, we need to first comprehend why it looks blue.

Sunlight consists of multiple colors with different wavelengths. The red light has the longest wavelength, while purple and blue lights have the shortest wavelengths.

When sunlight passes through Earth's atmosphere, it encounters a layer of tiny molecules and dust particles which cause the component lights to scatter. Due to their short wavelengths, blue and purple lights scatter more

than the others.

We see the blue light rather than purple because of the physiology of the human eye. Our eyes are more sensitive to blue, so we see the sky as blue.

In autumn, the blue sky looks even bluer for several reasons.

It's the time when the sun moves before the Tropic of Capricorn. Therefore the sun's rays are no longer directly above us but at an angle to the sky,

which increases the volume of scattered blue light visible at the ground level.

Autumn not only lowers the temperature but also humidity. With less water vapor in the air, it is harder for clouds to form, leaving the sky blue.

Additionally, blue and orange are complementary colors. In autumn, leaves turn orange and red, providing a stark contrast to the blue sky, making it even bluer.