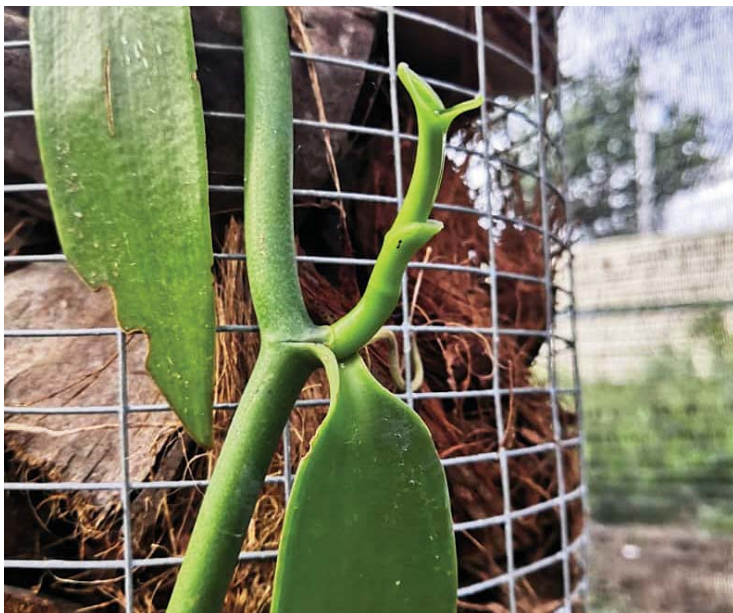




KAIROS AGRICULTURE

Vanilla aspirations

Kairos Agriculture aims to turn the northern region into Malaysia's national plantation hub for the high-value spice, supplying the domestic and global markets



KAIROS Agriculture made the news early this year when it embarked on its smart vanilla farm on a two-acre site at the Permatang Pauh Agro-Park in Penang. Employing precision farming techniques to monitor and control the irrigation, temperature and humidity, and ensure ideal growing conditions for the high-value crop, its goal is to turn the northern region of Malaysia into the country’s vanilla-growing hub.

The company’s journey in vanilla cultivation began three years ago when its CEO Ezra Tan Koon Hock partnered his former pastor, 59-year-old Alfred Phua Kok Hiong, in managing a vanilla farm in Kuching, Sarawak. Prior to the vanilla venture, Phua, who hails from Sarawak, had been actively involved in social work for Malaysia’s poor and marginalised communities — spending the last 10 years conceiving and implementing an integrated urban eco-farming project for underprivileged communities.

From this project, Phua discovered that mushroom waste makes very good vermicompost for vanilla. “From here, we decided to take over a vanilla farm in Kuching,” says Tan. He adds that the idea of expansion gained momentum when a Japanese flavouring company took notice of their crop and took some of the vanilla pods for testing. “Our vanilla pods passed the Japan Food Safety Act and industry benchmarks. The aroma and quality were also ranked very high. It was then that we began thinking of expansion.”

Tan, a 33-year-old Penangite with diversified entrepreneurial experience and networks in social marketing, food and beverage, and estate

Coconut husk makes an ideal growing medium for vanilla, which is part of the orchid family

Kairos Agriculture’s soon-to-be-patented portable vanilla-growing module will help communities that have never cultivated vanilla to plant the crop

development, then convinced Phua to embark on a new vanilla venture. This time the location was Penang, largely because of the climate and availability of modern farming technologies and resources in Peninsular Malaysia.

The high value of vanilla — in 2018, RM6 billion worth of vanilla was transacted globally — made the crop an attractive proposition. “Given the resources available in the northern region of Peninsular Malaysia, the availability of land and favourable climate, we saw an opportunity,” says Tan.

Kairos Agriculture applied to lease agricultural land from Chief Minister Incorporated (CMI), an agency under the Penang government, in the last quarter of 2019. The application was approved at end-January this year, and in February, work commenced just as the Covid-19 pandemic made its presence felt.

But Tan and his team persevered, and on Aug 15, Penang Chief Minister Chow Kon Yeow officially launched the farm as the country’s first smart vanilla farm.

Kairos Agriculture’s integrated farm at the Permatang Pauh Agro-Park, located at the border of Penanti in Penang and Lunas in Kedah, employs precision farming techniques for the cultivation of vanilla. Apart from vanilla, which is grown in the greenhouse, the farm also grows okra, corn, ginger and turmeric, and raises free-range chicken. “These are our cash crops to sustain the farm until we can harvest the vanilla pods (which will be in two to three years’ time),” says Tan.

To date, 1,000 trees have been planted, and some 300 trees are being planted each month. In two years, Kairos Agriculture hopes to reach its goal of 8,000 trees. “We plan to create the whole value chain, from planting to downstream processing,” says Tan,



Photos by Kairos Agriculture



adding that Japan is looking to explore the potential of securing its supply of vanilla from Malaysia.

Kairos Agriculture adopts a chemical-free, soil-based planting system for the cultivation of not only vanilla but also the other crops on the farm. “For the vanilla farm, we’re adopting a variety of energy and state-of-the-art technology and we aim to establish a fully integrated ecosystem that benefits both the consumers and the environment. Using smart farming technology, we have set up an automatic irrigation system on the farm whereby the irrigation system will be activated automatically when the weather is hot and the humidity is low. This will prevent unnecessary water wastage,” he says, adding that the farm also harvests rainwater for irrigation.

“Statistics show that rainwater harvesting can be used to improve plant growth as the harvested rainwater is generally free from chlorination and several types of pollutants and man-made contaminants. Using harvested water has also reduced the demand for groundwater, which is believed to cause soil erosion,” Tan says, pointing out that rainwater harvesting will eventually save up to 30,000 litres of water daily.

“We’re adopting a variety of energy and state-of-the-art technology and we aim to establish a fully integrated ecosystem that benefits both the consumers and the environment.”

~ Tan (right), with Penang Chief Minister Chow Kon Yeow at the launch of the farm in August

In terms of energy saving, Kairos Agriculture is implementing full LED lighting with integrated smart technology. “All the plugs in the farm have been installed with a smart device that enables daily monitoring of electricity consumption. The use of LED lighting with the smart integrated monitoring device allows us to monitor and manage the electricity more efficiently and effectively,” he explains.

Social impact element

Based on its experiences in vanilla cultivation thus far, Kairos Agriculture recently developed a portable vanilla module. The soon-to-be patented module incorporates the necessary piping for an automatic irrigation system, so the planting system is simplified and easy.

“When we opened our farm, people were coming to us asking if they too could plant vanilla at home, so this got us thinking about how we could help communities, especially those affected by the pandemic, venture into vanilla farming. That’s how we came up with the portable vanilla module,” says Tan.

The module, which includes seedling, fertiliser as well as planting training and coaching, provides



a solution for communities that have no expertise in, or knowledge of vanilla planting to plant vanilla. Besides this all-in-one package, Tan says Kairos Agriculture offers a guaranteed-buy-back scheme to module subscribers.

“This guaranteed return can make up for the loss of income or job due to the pandemic,” he says. The goal is to set up 6,000 sets of the portable vanilla module for 1,000 local B40 families, so each family owns and manages six sets of the module. “With this, they can generate a total estimated income of RM2,000 to RM6,000 a year (based on current world market price) over 10 years from the third year onwards.”

Kairos Agriculture is currently working with the relevant local authorities to launch the vanilla portable module, which is in line with the state government’s poverty eradication movement, especially for those among the B40 families.

Following the launch of the farm in August, CMI approved a further four acres of land adjacent to the existing farm. On this, Kairos Agriculture plans to set up a social entrepreneur training hub, School of Experiential and Entrepreneurship Development, or SEED.

Training programmes at SEED will incorporate one to three months of agricultural and entrepreneurship programmes with relevant industry attachment programmes. The Permatang Pauh Agro-Park, for example, will be an ideal venue to house and provide a hands-on learning environment for aspiring youth agropreneurs, says Tan.

“The goal is to cultivate the entrepreneurial spirit, mindset and skills among the local community, especially among the youth to join the global smart farming movement. Through this, we hope to see the birth of more like-minded agropreneurs to drive

Kairos Agriculture hopes to create a whole value chain from planting to downstream processing. The pods from Tan’s earlier vanilla venture have already passed Japan’s Food Safety Act and ranks high on aroma and quality.

the growth of the local economy,” he adds.

Through the training hub, Kairos Agriculture hopes to address some of the gaps in the agriculture sector, especially where young talent is concerned. “There is a general lack of innovation in the industry, and young people today are more attracted to and interested in innovation and creativity related work. So, we need to be innovative in engaging and getting the young to not only work in this sector but also unleash their innovation and creativity.

“In today’s technological age, staying motivated is a struggle for young people, so we need to ignite their motivation by tackling some of the reasons they’ve lost their motivation, whether it’s a lack of confidence, lack of focus or lack of direction,” says Tan.

‘Achieving more together’

To date, Tan says Kairos Agriculture has established smart and diversified partnerships with public and private stakeholders to work together in supporting win-win, high-yield, precision-farming initiatives empowered by the latest Fourth Industrial Revolution (IR 4.0) technologies. A firm believer in the collective collaboration of resources, he adds: “When we align our hearts, talents and efforts, we can go further and achieve more together.”

The company recently joined forces with PwD Smart Farmability in the fresh food bank initiatives aimed at marginalised groups in the Permatang Pauh and Penanti areas, the first of which was the distribution of 50 giant tilapia fish in September. “More collective efforts with PwD Smart Farmability in scaling up nutrition and urban farming in the northern region is in the pipeline,” says Tan.

In the area of research and development (R&D), Kairos Agriculture is working closely with Universiti Sains Malaysia’s School of Biological Sciences, for vanilla portable module pilot testing and commercialisation, tissue cultivation and further smart farming technology strategies.

The goal ahead, says Tan, is to strengthen the company’s R&D capabilities, particularly in implementing software that is able to collect and generate comprehensive data for better-quality and faster-growing yields, while maintaining its ethos of chemical-free planting.

“It requires the setting up of the necessary on-site mechanism, infrastructure and internet gateway to enable data collection and product improvement. Through the comprehensive database and the natural advantages of our location here in the north, we aim to turn the northern region into the country’s national vanilla plantation hub, supplying the domestic and global markets.” ♦ *By Sreerema Banoo*