

Urban farming goes high-tech

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Jolene Lum, founder of Urban Tiller
urbantiller.sg

THAT pack of greens that you bought from the shops may look and taste like vegetables, but chances are that they've already lost their nutritional value on the way to your plate.

But when you order your lettuce, kale and chye sim from Urban Tiller, its founder Jolene Lum guarantees that the vegetables were harvested just six to eight hours before.

The farm-to-table AgTech startup doesn't own any farms due to the high cost of running them. Instead, it works with local small to mid-sized farms.

"I wanted to test the business hypothesis that customers wanted freshness and would not mind paying a premium for it. To this end, I aggregated from a farm network of local farms," says Ms Lum.

She adds that, given the emergence of more urban farms in Singapore, her natural instinct is to provide access to the most nutritious crops, with freshness that can be delivered on demand.

"These new-age farmers face various challenges and the aim of Urban Tiller is to create a new business model for a more viable go-market strategy for smaller, more sustainable farmers and their produce which might face difficulties with more traditional supply chains," says Ms Lum.

While she doesn't grow the vegetables herself, she personally checks in on the farms in the morning for her supplies, and spends time building relationships with new farmers and other business partners.

Ms Lum plans to increase the assortment of vegetables and bring Urban Tiller's ultra fresh experience to other countries.

"I'm excited to have a truly sustainable model of working with farmers and bringing AgTech services to them through solid offtake partnerships and relationships that we build up so that we can optimise farming and food production wherever we are operating. Through e-commerce, we generate more sustainable returns for farmers. This way, we hope to build a new generation of farmers and farming technology," she says.



is tasty and suitable to farm in a tropical climate, and the latter because it is low in cost.

The farm uses nanobubble technology to create an oxygen-rich environment for the fish to grow.

Restaurants make up the bulk of Mr Ng's customers, but he has also set up an e-shop for households to buy his fish, marketed under FIN (Farmed Indoor with Nano-oxygen) by BOAT.

Apart from fresh fish, it also retails ready-to-eat products such as noodles and collagen soup made using jade perch. "We want to bring convenience to consumers, and these products are also a way to minimise food wastage," he says.

Mr Ng adds: "Food security and food resilience are very important. As the world's population is increasing, food exporting countries will try to satisfy the needs of their own people first. Singapore must have its own backup plan."



Clockwise from above: Fresh vegetables from Urban Tiller are delivered in sustainable boxes; Jolene Lum, founder of Urban Tiller; Ng Yiak Say, founder of FIN by BOAT; Mathew Howe, founder of Grobrix; The Sundowner's founder Clarence Chua at his urban farm atop a Siglap shophouse. PHOTOS: URBAN TILLER, FIN BY BOAT, GROBRIX

Ng Yiak Say, founder, FIN by BOAT
finbyboat.com.sg

LIKE most engineers, Ng Yiak Say enjoys solving problems. He runs a successful electronics manufacturing firm but more recently, he's used his problem-solving skills to tackle the challenges faced by coastal fish farmers.

"Environmental problems such as red tides, oil spills, oxygen deficiency and pollution caused by human activities prompted me to use my electronics manufacturing knowledge to solve the livelihood problems of these fish farmers," says Mr Ng.

He says the lack of available fish farming technology, suitable farming equipment and machinery were just some of the problems he faced during his venture into aquaculture. To enhance his knowledge in fish farming, he even took up a diploma course in the subject.

About four years ago, he set up Blue Ocean Aquaculture Technology (BOAT), Singapore's first indoor aquaculture farm in a flatted warehouse in Tuas.

Farming fish indoors means that there are fewer environmental problems such as water pollution to deal with. Land that is available for fish farming in Singapore is scarce, so housing it in a warehouse was the only option.

"But even then the farm had to be space-saving and yet be able to produce large quantities of fish," says Mr Ng, who researched and experimented to find the best farming method.

Mr Ng farms jade perch and tilapia, the former because it has a high nutritional value,

Mathew Howe, founder, Grobrix
grobrix.com

MATHEW Howe never imagined that he would be an urban farmer one day, but he has his two young daughters to thank for his career switch.

A year ago, he left a 15-year career in banking to start Grobrix, an indoor urban farm.

"There was a time when pesto sauce was on the lunch menu every day for the girls. We started growing our own basil when the supermarket could not fulfil the household needs," he says.

Beyond growing basil for personal consumption, Mr Howe saw that starting Grobrix would allow him to "go on a journey to educate, encourage and enthuse urban communities to grow some of their own food and live healthier, happier, more self-sufficient lives."

Standing at 180cm tall, requiring just two square feet of space and access to power, Grobrix is designed for indoor use and resembles a lighted shelf for growing vegetables.

"The design is an attempt to blend the aesthetic qualities of an indoor green wall, with the sustenance functionality of modern vertical farming," says Mr Howe. Grobrix was designed, developed and made in Singapore.

Leafy greens, herbs, edible flowers and micro-greens are grown in air on the Grobrix. The plants are grown under LED tubes that deliver an optimised wavelength of light to promote healthy plant growth. Water and fertiliser are recycled through an automated irrigation system.



BT FILE PHOTO

The entrepreneur says that it is only recently that he has found partners to work with. "Getting a new venture off the ground comes with its highs and lows and going through these alone was quite challenging," he says.

With a growing team, he is confident of installing Grobrix even outside of the home. "We are currently piloting the systems in homes, and hope to place them in offices, hotels, schools and restaurants," he says.

Mr Howe has also set his sights beyond Singapore. "The vision is to make farming about more than just feeding ourselves, but also a lifestyle endeavour: something to bring people together," he says.

Clarence Chua, founder, The Sundowner
thesundownersg.com

CLARENCE Chua isn't your typical urban vegetable farmer. For him, the profit margin is low and the business is tough to sustain. Instead, he runs farming experiences, from showing city folks how to grow vegetables organically, and beekeeping.

As general manager of a landscaping company, Mr Chua didn't plan on starting The Sundowner, which offers rooftop farming experiences. In fact, he got the idea when he stumbled upon a beehive one day. It happened when he took tenancy of a shophouse in Siglap which had an empty rooftop. The space was perfect to showcase his landscape business, but in the midst of moving an

old garden shed up to the roof, Mr Chua discovered a beehive in it, which required moving.

Unable to find beekeepers to remove the hive, he learnt how to remove it from the shed, and to relocate it to the rooftop. The bees are now the star attraction of the rooftop experience.

"City folks love urban farming basically because of biophilia. Seeing and being around greenery soothes the senses and increases endorphins. When it comes to food and sustenance, people are especially engaged," he says.

During the two-hour long experience, participants get to hold soil critters (think earthworms) and learn how they are great for the plant health. They also don bee suits so they can watch the bees at work, and taste some honey.

"We want to show how everything in nature is connected. From soil health to healthy plants which are pollinated by bees, and from there they bear healthy and nutritious fruits and flowers for our consumption and dietary well-being," says Mr Chua.

His biggest challenge isn't convincing city dwellers to try growing their own food. Instead, it is keeping his bees happy, as they are known to abscond when unsatisfied with the hive. "I'm now more attuned to what bees like, otherwise our star attraction is no more," he says.

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A partnership of equals

By Helmi Yusof

WHISKEY stalwart The Macallan and luxury car maker Bentley Motors are collaborating to realise their visions of sustainability. On the surface, The Macallan, with its nearly two centuries of whiskey-making experience, and Bentley, with a 102-year reputation for solid engineering, have little in common.

But both have long-standing traditions of craftsmanship and innovation, and both see the importance of collaborating with like-minded partners to work towards a progressive, sustainable future.

So they've decided to share their research into environmental issues such as carbon neutrality, material sustainability and responsible sourcing, as well as other core issues such as luxury marketing and consumer engagement.

The Macallan Estate, for instance, has recently taken delivery of its new Bentley Bentayga Hybrid, a new luxury SUV featuring Mulliner details.

It is the first of two permanent estate cars for The Macallan; the other being the Flying Spur Hybrid.

With Bentley constantly measuring its goal towards becoming the world's leading sustainable luxury mobility company, the cars will be used on-site for VIP transfers and exclusive experiences at The Macallan estate.

The cars will be charged on-site by newly installed charging points using 100 per cent

REGO (Renewable Energy Guarantees of Origin) certified renewable electricity, sourced entirely from Wardlaw Wood Wind Farm in Scotland. By 2025, the estate plans to have a fully electric passenger vehicle fleet to offer silent, sustainable rides for its guests.

The Macallan 485-acre estate itself is something of a marvel. It is located in Speyside Scotland and home to a natural ecosystem of 60,000 trees and more than 70 species of wildlife. In 2018, The Macallan opened a new chapter in its history with the launch of its award-winning Speyside distillery.

Designed by internationally acclaimed architects to promote sustainability, the building takes inspiration from the surrounding ancient Scottish hills.

It stands nearby Easter Elchies House, the Highland Manor built in 1700, which is The Macallan's spiritual home and the heartbeat of the estate.

Both the Bentayga Hybrid and the Flying Spur Hybrid plying the estate will be customised using the same colour palette and personalised details.

The Bentayga Hybrid, for one, boasts a suite of fine details that bear the hallmarks of the estate. These are crafted by Bentley Mulliner's Personal Commissioning Guide which offers customers the option of personalising their Bentley in numerous ways.

Its exterior paintwork features Bentley's rich dark metallic green colour known as viridian, complemented by the Blackline Specification which applies a gloss black treat-



Whiskey stalwart The Macallan and luxury car brand Bentley Motors collaborate to realise their common vision of a more sustainable future. PHOTOS: MACALLAN & BENTLEY MOTORS



ment to all exterior brightware. Smaller, subtler details include unique stitching, personalised inlays to wood veneer, and bespoke treadplates and LED welcome lamps.

Igor Boyadjian, managing director for The Macallan, said: "The Macallan and Bentley Motors each have a rich heritage, and shared values of mastery, craftsmanship, creativity and innovation. Our collaboration presents a remarkable opportunity to compare our time-earned knowledge and learn from each other... The breathtaking natural landscape at The Macallan Estate provides the perfect platform for us to embark together on this exciting and extraordinary journey."

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