

## 3 Innovations from the International Horticultural Expo

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UAE innovators were out in force at the International Horticultural Expo in Doha, Qatar, this year. The six-month event came to a close at the end of March, with a raft of companies exhibiting their exciting new technologies in the horticultural sector.

The UAE has long prided itself on being a pioneer in terms of sustainability and future-proofed farming techniques, so its little surprise that the country was represented by several enterprising businesses. We take a look at the picks of the bunch below.

### Recycling food waste

Food waste has traditionally posed a serious problem in the UAE. Around 38% of all prepared food in the country is discarded, with that figure rising to 60% during Ramadan. Domestic agritech company Circa Biotech are aiming to address the issue by transforming food waste into fodder for animals and fuel for the aviation industry.

By harnessing the power of black soldier fly larvae, the company is able to metabolise waste items into fats and proteins, which can then be converted into feedstock for fish and chickens. With that objective already achieved, the team are now focusing their efforts on producing sustainable aviation fuel, as well. Their new facility in Al Ain is currently under construction and will be capable of handling 1,000 tonnes of food waste per year upon completion.

### Vertical farming

Meanwhile, vertical farming specialists Smart Acres were also on show at the Expo. This innovative company uses the unorthodox vertical method of agriculture, supported by hydroponic technology, to produce leafy greens in a fraction of the land space as traditional farming methods. It also consumes significantly less water and does not require the use of any pesticides at all.

Taking up just 10% of the terrain and 90% of the water that conventional agriculture would, the farm has been a dream of its founder Abdulla Al Kaabi for some time. "I always had passion in environment and farming," [he explained](#). "When UAE government started initiatives about food security and sustainable practices, I was inspired and motivated to do such a project to benefit the community."

## Water scarcity

Water has always been at a premium in a climate as arid as that found in the Middle East. Therefore, it's logical that improving water security would be a key target for many Emirati innovators. Dinesh Shetty, an assistant professor of chemistry at Khalifa University, is pioneering a water purification method capable of removing pesticides, toxins and other contaminants from water, making it safe to use in a domestic or agricultural setting.

Elsewhere, Shetty's fellow professor Dr Saeed Al Hassan has launched his own start-up Manhat, which uses the natural heat from the sun to generate freshwater. Instead of relying on electricity, Dr Al Hassan's system goes back to basics by allowing evaporation to remove salt from the source, thus making the water suitable for irrigation purposes. Manhat already has several prototypes in place at locations across the Emirates.