Agritech is an investment you can grow

2019’s RHS Chelsea Flower Show might have had some impressively manicured moss courtesy of Ishihara’s Green Switch garden and the meadow-like wilderness of Kate Middleton’s Back to Nature garden, but it was Tom Dixon’s Research Studio collaboration with Ikea that caught our eye. This Sci-Fi-like garden helped bring the future farm into the foreground, demonstrating the benefits of hydroponics and giving both food producers and enterprising at-home gardeners something to think about.

Soil-free growth systems for plants, hydroponics don’t require natural light, but provide a nutrient-rich solution through water or via a sandbed, ensuring high-quality produce year-round. Easier to maintain than soil-based gardening; requiring little expertise; and virtually free of natural enemies, such as pests, weeds and bacteria, these are fast-growing systems that are set to change how we grow and supply our veg on a huge scale.

Aeroponics suspend the plants in darkness and a nutrient-rich solution is sprayed onto the roots at intervals to ensure their growth. These systems guarantee plants the most nutrient absorption, though they require more monitoring and expertise than their hydroponic counterparts in order to

maintain the necessary pH balance and ratios in their nutrient blend.

These systems claim to counteract problems relating to CO2 emissions, waste, the collapse of ecosystems, lengthy supply-chain waste and increasing food demand. A 2017 study in BioScience projects that in order to meet the world's food demands in 2050, with an expected population of 9.7 billion, then we need to increase our production by between 25% and 70%. And the argument for sustainability is stronger than ever.

You'll be forgiven for thinking this is a relatively new technology. Hydroponics date as far back as the Hanging Gardens of Babylon and Marco Polo reported similar systems in China. Inspired by these ancient techniques, these ultra modernised systems allow for large-scale urban agriculture that might see us through to the next millennium. Appearing like futuristic labs, hydroponic farms feel lightyears away from your average rural set-up.

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Quick tips to make your office more sustainable

Who's using them?

When Dixon and celebrity chef Michel Roux Jr. aren't prosthelytising about them, there are countless startups that have moved into the hydroponic field (excuse the pun). In the UK, several innovators, including Bristol-based LettUs Grow, have been making their mark in the industry, showing how efficient and eco-friendly this method is and, as they put it, 'empowering anyone to grow food sustainably and close to home.'

It's not only the innovation that's making the headlines. Clapham-based Growing Underground harvest their crop from a disused air raid shelter, providing an exemplary solution for inner city agriculture. Many sorts of spaces could be repurposed in this way, whether bunkers; vacant properties; disused tube stations; empty garages; mine shafts; or perhaps school classrooms during the holidays.

(Side note: this burgeoning industry's early entrepreneurs are fast using up the right puns to strengthen their brand equity. Grow Up , another.)

Where will this take business in the future?

Maddyness predicts that the adoption of hydroponics into the hobbyist's home will only increase. Currently the cost of a Tower Garden for UK customers is over £800, so whilst this will get you a proper home harvest, it's not a stocking filler, but you can get good small starter kits for as little as £69.99 (here, from Seed Pantry) or then upwards of £100 (take this one, from Akarina). In time the Tower Garden (and their equivalents) prices may drop if innovation and demand continues as it has been. Commercial units could equally benefit from government subsidies if we're to advocate for this technology in the interests of meeting food demand and preserving ecosystems. In the meantime, if you're wanting to set up a DIY hydroponic unit, then the challenge of self-assembly is yours.

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Article by ELLA BOWMAN